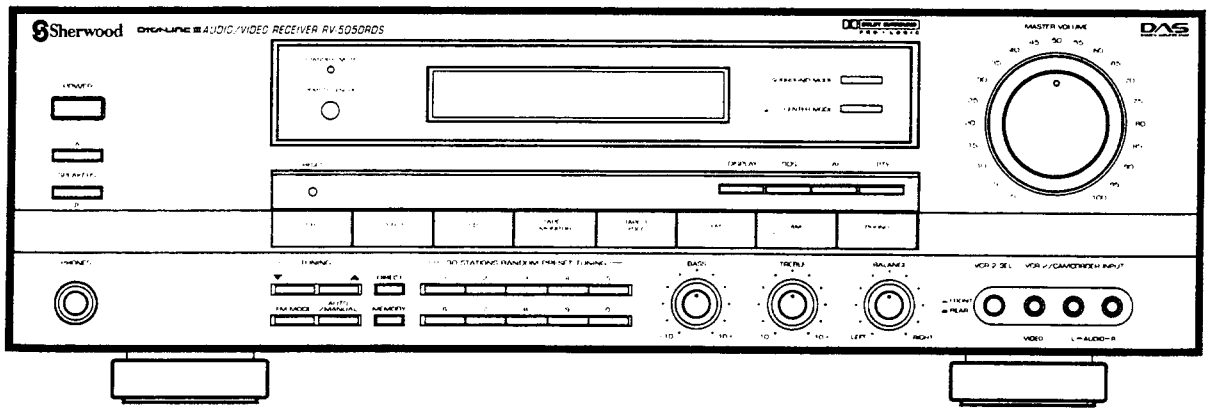
SERVICE MANUAL

RV-5050RDS

STEREO A/V PRO-LOGIC RECEIVER



■ CONTENTS ■

Safety Precautions 2
Specifications 3
Wiring Diagram 5
Block Diagram 7
Circuit Description 9
Alignment Procedures 17
Troubleshooting 20
Exploded View 23
Printed Circuit Boards 25
Mechanical Parts List 31
Electrical Parts List 32
Semiconductor Lead Identification & Internal Diagram 38
Schematic Diagrams(I, II, III, IV) 45

Sherwood

SAFETY PRECAUTIONS

WARNING

Before servicing this unit, familiarize yourself with the following precautions:

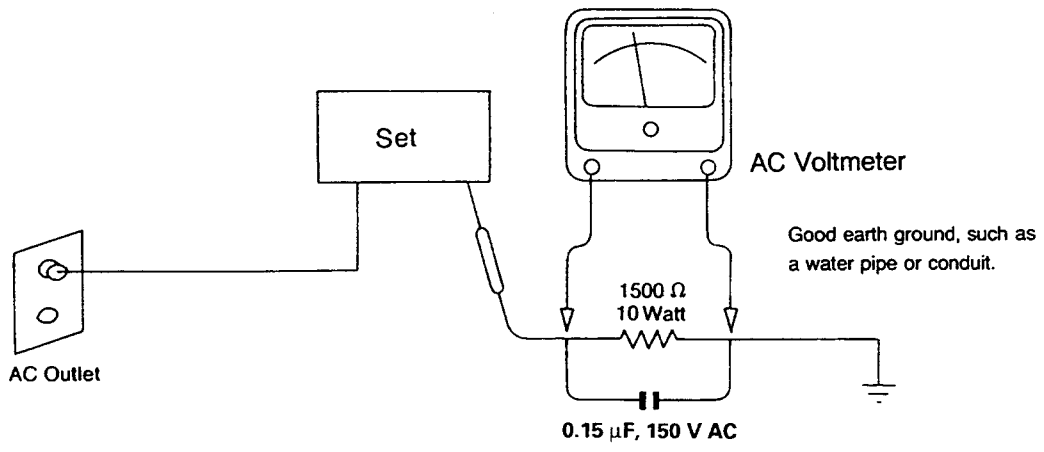
1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components

   Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by ⚠ in the schematic diagram and the parts list.

   Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate danger of electrical shock. Plug the AC line cord directly into a 230 V AC outlet.
   (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000 Ω per volt or greater. Then connect a 1500 Ω 10 watt resistor, paralleled by a 0.15 μF 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metalic is parts, one at a time. Measure the AC voltage across the combination of a 1500 Ω resistor and a 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metalic part. Voltage measured must not exceed 0.75 V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

At 5000 Ω per volt or greater sensitivity,
the reading should not exceed 0.75 V.



Place the probe on each exposed metalic part.

SPECIFICATIONS

FRONT AMP SECTION

Condition: DOLBY PROLOGIC off.

No.	Description		Unit	Nominal	Limit
1	RMS Output Power(mode: STEREO) both channels driven at 40 Hz-20 kHz freq., 0.7% THD, 8 Ω load.		W	≥82	≥80
2	Inter Modulation Distortion (60 Hz:7 kHz=4:1 SMPTE) at 8 Ω load, 80 W output.		%	≤0.05	≤0.08
3	Input Sensitivity at 1 kHz freq., 47 kΩ Impedance.	PHONO CD, ETC	mV mV	2.8 ± 0.35 170 ± 20	2.8 ± 0.4 170 ± 30
4	PHONO Input Overload at 1 kHz freq., 0.5% THD		mV	≥140	≥120
5	Frequency Response; at 8 Ω, 1 W output, 30 - 15000 Hz ----------> PHONO at 8 Ω, 80 W output, -3 dB----------> CD, TAPE		dB Hz	RIAA ±1.0 10 - 60000	RIAA ±1.5 20 - 50000
6	Signal to Noise Ratio IHF"A" weighted at 8 Ω, 1 kHz, 80 W output	PHONO CD, AUX	dB dB	≥70 ≥90	≥66 ≥85
7	Tone Control at 8 Ω, 1 W output	BASS: 100 Hz TREBLE: 10 kHz	dB dB	10±1.8 10±1.8	±10±2 ±10±2
8	Channel Separation at 8 Ω, 80 W output Input shorted, CD, TAPE	100 Hz 1 kHz 10 kHz	dB dB dB	≥50 ≥50 ≥45	≥40 ≥40 ≥35
9	Crosstalk at 8 Ω, 1 kHz freq., 80 W output Input shorted	CD⇒TAPE1 TAPE⇒CD	dB dB	≥65 ≥60	≥50 ≥50
10	Sub woofer output at CD, 1 kHz, 170 mV input		mV	900±100	900±150
11	Headphone output at 1 kHz, 1 W Speaker output	33 Ω Load	mV	200±30	200±50
10	Total Harmonic Distortion at 8 Ω load, 80 W output	40 Hz 1 kHz 20 kHz	% % %	≤0.05 ≤0.05 ≤0.2	≤0.2 ≤0.2 ≤0.3

REAR AMP SECTION

Condition

Input: CD, Input level: 1 kHz freq. 230 mV, Rear level: Max., Mastar Volume: adj.

No.	Description		Unit	Nominal	Limit
1	RMS Output Power(1 CH. driven 80 W) at 1 kHz freq., 8 Ω load		%	≤0.8	≤1
2	Frequency Response at 1 W output, ±3 dB, WIDE MODE		Hz	≥80 - 7000 (±500)	≥100 - 7000 (±1000)
3	Signal to Noise Ratio(IHF"A" weighted) Delay time: 20 ms	DOLBY	dB	≥65	≥60

CENTER AMP SECTION

Condition

Input: CD, Input level: 1 kHz freq. 220 mV, Center level: Max., Mastar Volume: adj.

No.	Description		Unit	Nominal	Limit
1	RMS Output Power(1 CH. driven 80 W) at 1 kHz freq., 8 Ω load		%	≤0.2	≤0.4
2	Frequency Response at 1 W output, -3 dB, DOLBY	NORMAL WIDE	Hz Hz	100 - 17000 30 - 17000	150 - 15000 50 - 15000
3	Signal to Noise Ratio (IHF"A" weighted)	NORMAL	dB	≥78	≥70

VIDEO SECTION

No.	Description		Unit	Nominal	Limit
1	Input Sensitivity/Impedance		dB	1 Vp-p/75 Ω	±0.5
2	Output Level/Impedance		dB	1 Vp-p/75 Ω	±0.5
3	Frequency Response	5 Hz -6 MHz	dB	±2	±3
4	Crosstalk	1.0 MHz	dB	≥45	≥40
5	Signal to Noise Ratio		dB	≥45	≥40

FM SECTION

Antenna Impedance: 75 Ω

No.	Description		Unit	Nominal	Limit
1	Tuning Frequency Range, Step: 50 kHz		MHz	87.5 - 108.0	
2	Usable Sensitivity		dBf	≤17.2	≤20.7
3	-46 dB Quieting Sensitivity	MONO	μV	≤3	≤5
		STEREO	μV	≤35.8	≤56.2
4	Signal to Noise Ratio (IHF"A" weighted)	MONO	dB	≥70	≥65
		STEREO	dB	≥65	≥60
5	Total Harmonic Distortion at 1 kHz freq.	MONO	%	≤0.30	≤0.50
		STEREO	%	≤0.60	≤0.90
6	Frequency Response at 20 Hz-15 kHz		dB	≥ ±2	≥ ±3
7	Image Rejection		dB	≥40	≥35
8	Spurious Response		dB	≥70	≥60
9	IF Rejection		dB	≥65	≥60
10	Alternative Channel Selectivity		dB	≥50	≥40
11	AM Suppression Ratio		dB	≥60	≥50
12	Stereo Separation	100 Hz	dB	≥40	≥35
		1 kHz	dB	≥45	≥40
		10 kHz	dB	≥35	≥30
13	Auto Stop Error	MONO	dBf	28 ± 5	28 ± 6
14	Muting Threshold		dBf	28 ± 5	28 ± 6
15	Output Voltage	MONO	mV	500 ± 80	500 ± 150
16	RDS Sense	@TA ON Level	μV	28.1	35.8

AM SECTION

No.	Description		Unit	Nominal	Limit
1	Tuning Frequency Range, Step: 9 kHz		kHz	522 - 1611	
2	Usable Sensitivity		μV/m	≤500	≤800
3	Signal to Noise Ratio		dB	≥45	≥40
4	Total Harmonic Distortion		%	≤1.0	≤1.5
5	Selectivity		dB	≥25	≥20
6	Image Rejection		dB	≥33	≥28
7	Frequency Response at 400 Hz freq. 0 dB, -6 dB		Hz	80 - 2100	100 - 1800
9	Auto Stop Level		dB/m	60 ± 5	60 ± 6
11	Output Voltage	400 Hz, 30% MOD., @1000 kHz	mV	200 ± 40	200 ± 50

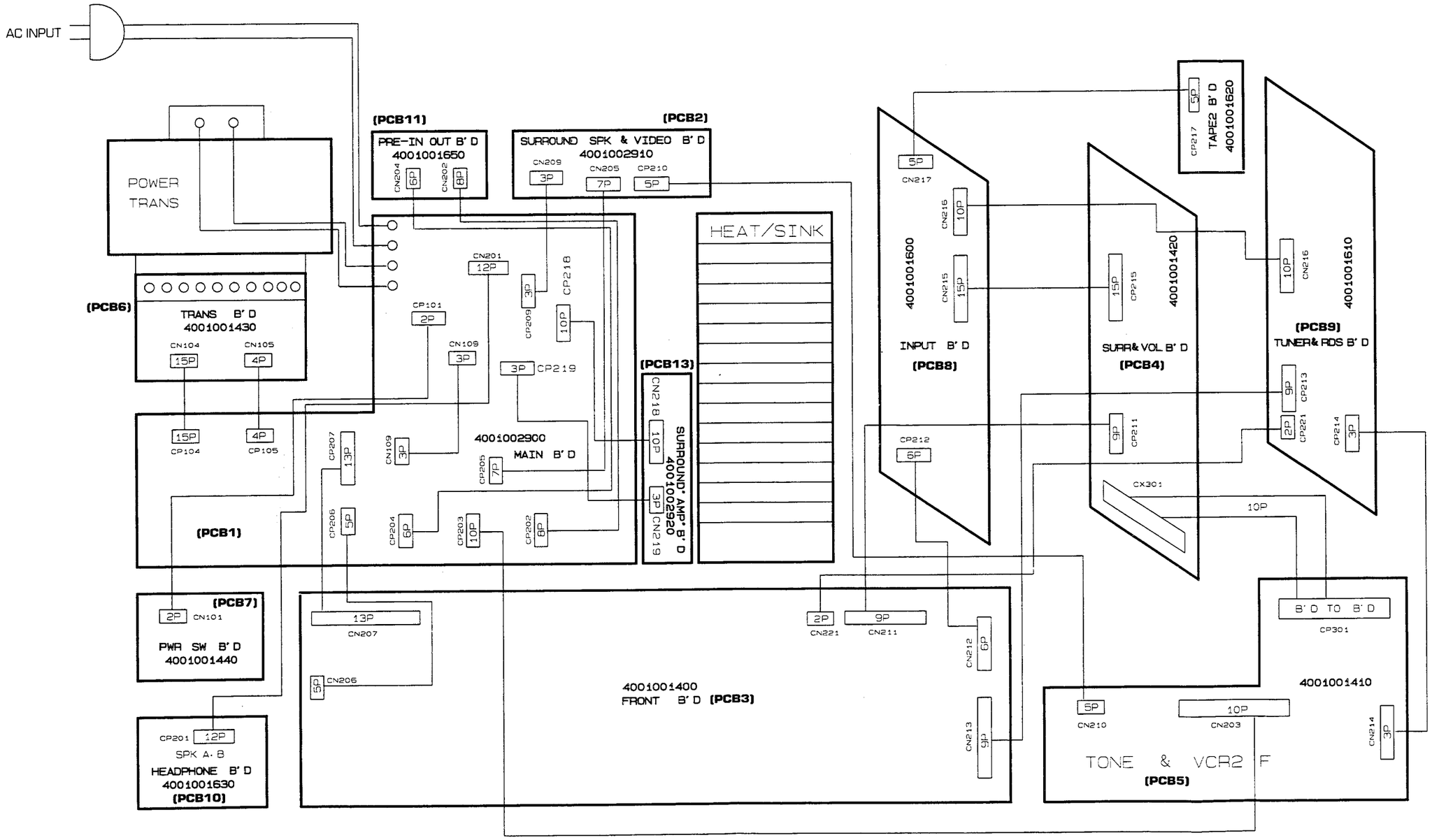
General

Speaker Load Impedance ---------- 8 Ω
Power Consumption ---------- 640 W
Dimensions (W × H × D) ---------- 440X140X330 mm
(17-5/16X5-1/2X13 inch)
Weight (Net) ---------- 9.85 kg
(21.72 lbs)
Power Supplies ---------- 230 V AC, 50 Hz

Specifications and components subject to change without notic
Overall performance will be maintained or improved.

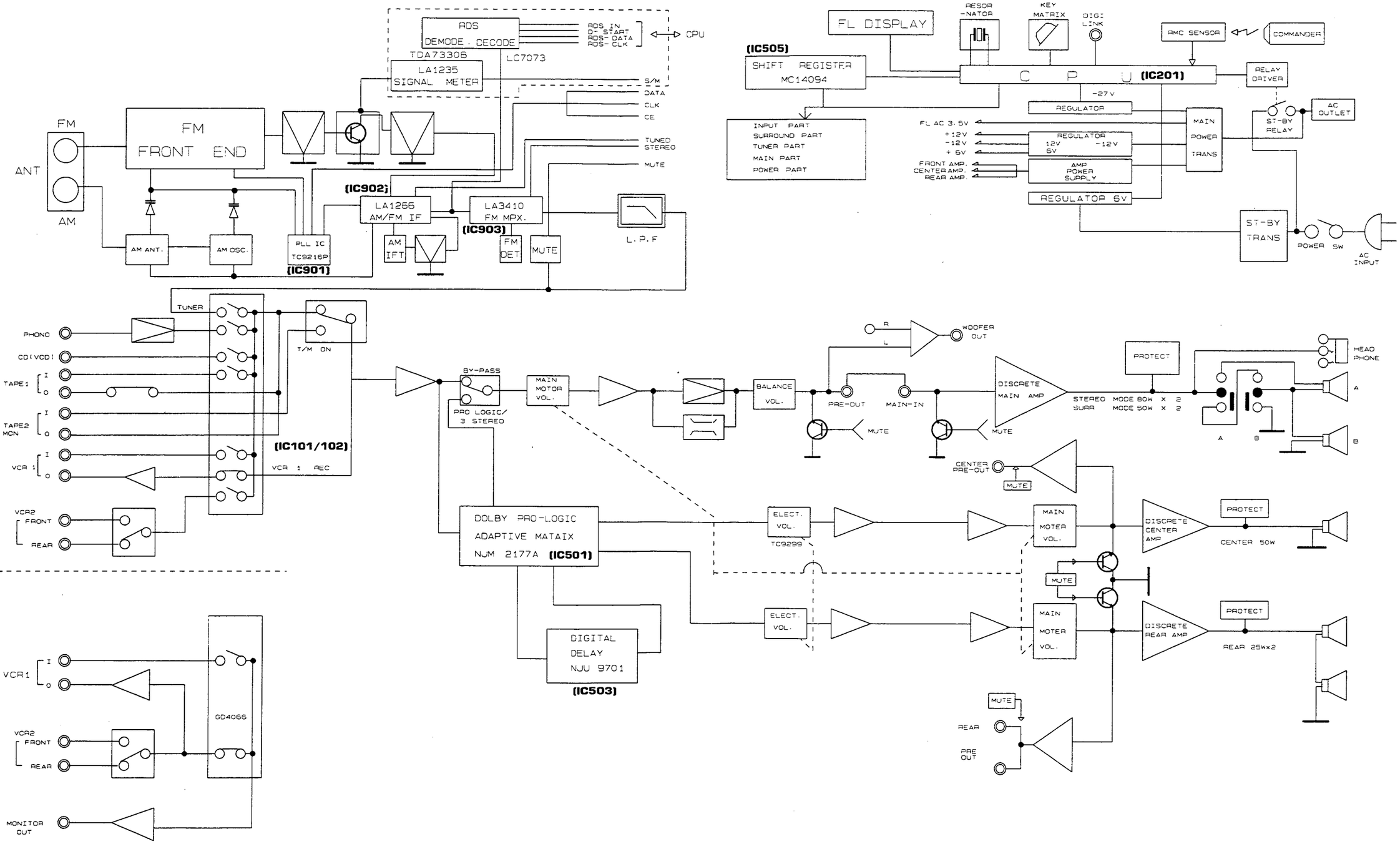
WIRING DIAGRAM

Model No. : RV-5050RDS



BLOCK DIAGRAM

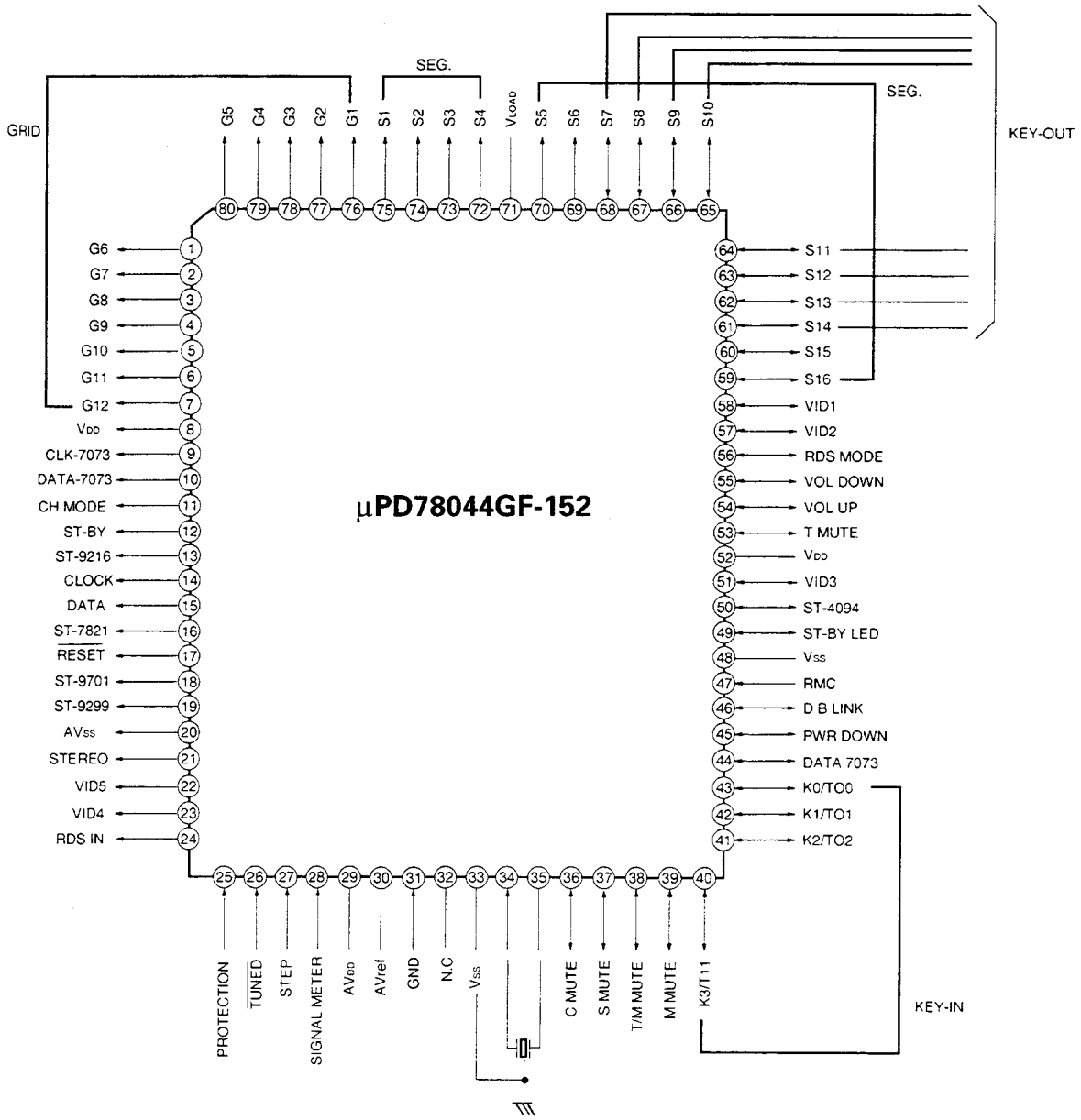
Model No. : RV-5050RDS



CIRCUIT DESCRIPTION

IC201 : μPD78044AGF-152 (8bit CMOS Microprocessor)

1. Pin Configuration



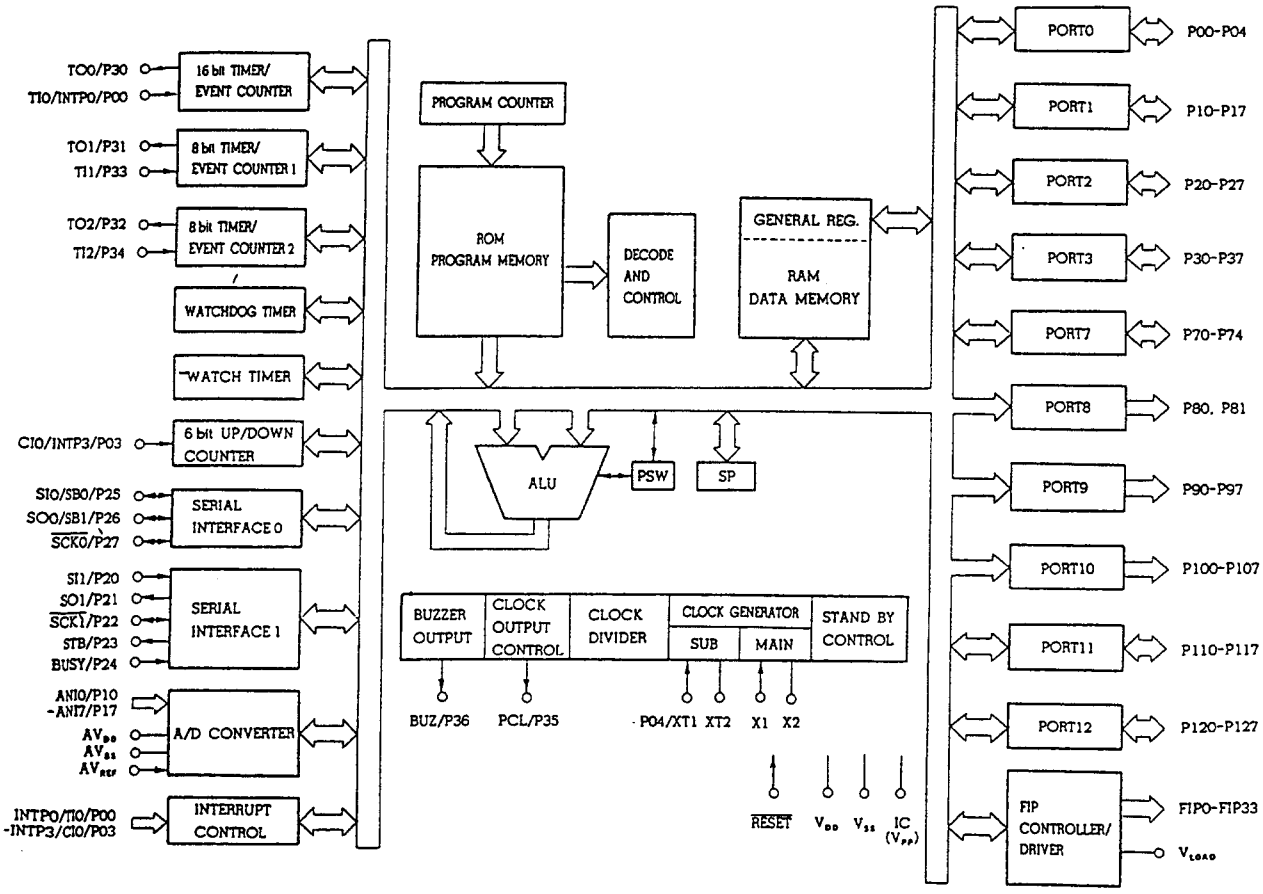
2. Pin Functions

<table>
<tr><th>Pin No.</th><th>Symbol</th><th>Description</th><th>Active Logic</th></tr>
<tr><td>1-7</td><td>GRID 6 - 12</td><td>Grid signal output for FIP.</td><td></td></tr>
<tr><td>8</td><td>VDD</td><td>+5 V power supply.</td><td></td></tr>
<tr><td>9</td><td>CLK-7073</td><td>Clock port of LC7073.</td><td></td></tr>
<tr><td>10</td><td>DATA-7073</td><td>Data port of LC7073.</td><td></td></tr>
<tr><td>11</td><td>CH-MODE</td><td>Control port for Dolby Pro-Logic Channel.</td><td>H</td></tr>
<tr><td>12</td><td>ST-BY</td><td>When the power is on, control data output is "H".
When the power is off, control data output is "L"
and last memory is actived.</td><td></td></tr>
<tr><td>13</td><td>ST-9216</td><td>Strobe port of TC-9216.</td><td></td></tr>
<tr><td>14</td><td>CLOCK</td><td>Clock output.</td><td></td></tr>
<tr><td>15</td><td>DATA</td><td>Data output.</td><td></td></tr>
<tr><td>16</td><td>ST-7821</td><td>Strobe port of LC-7821.</td><td></td></tr>
<tr><td>17</td><td>RESET</td><td>Input for resetting CPU.</td><td></td></tr>
<tr><td>18</td><td>ST-9701</td><td>Strobe port of NJU-9701.</td><td></td></tr>
<tr><td>19</td><td>ST-9299</td><td>Strobe port of TC-9299A.</td><td></td></tr>
<tr><td>20</td><td>AV_{SS}</td><td>Ground</td><td></td></tr>
<tr><td>21</td><td>STEREO</td><td>Input for detecting FM STEREO.</td><td>H/M/L</td></tr>
<tr><td>22</td><td>VID5</td><td>Control port of VCR2 front and rear.</td><td></td></tr>
<tr><td>23</td><td>VID4</td><td>Control port of VCD.</td><td></td></tr>
<tr><td>24</td><td>RDS IN</td><td>Strobe port of TDA-7330B RDS input.</td><td>L</td></tr>
<tr><td>25</td><td>PROTECTION</td><td>Signal input for protection.</td><td></td></tr>
<tr><td>26</td><td>TUNED</td><td>Input for detecting the station during tuning.</td><td>L</td></tr>
<tr><td>27</td><td>STEP</td><td>According to the region, input for selecting the frequency bands and steps of FM and AM.

Settings are as follows.
<table>
<tr><th>REGION</th><th>FREQUENCE</th><th>STEP</th><th>PIN 27</th></tr>
<tr><td>AMERICA</td><td>FM: 87.5 - 107.9 MHz</td><td>200 KHz</td><td rowspan="2">5 V</td></tr>
<tr><td></td><td>AM: 520 - 1710 KHz</td><td>10 KHz</td></tr>
<tr><td>EUROPE</td><td>FM: 87.5 - 108 MHz</td><td>50 KHz</td><td rowspan="2">2.5 V</td></tr>
<tr><td></td><td>AM: 522 - 1611 KHz</td><td>9 KHz</td></tr>
<tr><td>KOREA</td><td>FM: 87.5 - 107.5 MHz</td><td>200 KHz</td><td rowspan="2">0 V</td></tr>
<tr><td></td><td>AM: 522 - 1611 KHz</td><td>9 KHz</td></tr>
</table></td><td></td></tr>
<tr><td>28</td><td>SIGNAL METER</td><td>Input port of FM Signal.</td><td>H/L</td></tr>
<tr><td>29</td><td>AV_{dd}</td><td>Power supply of Analog A/D Converter.</td><td></td></tr>
<tr><td>30</td><td>AV_{ref}</td><td>Ref. Voltage of Analog A/D Converter.</td><td>L</td></tr>
<tr><td>31</td><td>GND</td><td>Ground.</td><td></td></tr>
<tr><td>32</td><td>N.C</td><td>Not used !</td><td></td></tr>
<tr><td>33</td><td>V_{SS}</td><td>Ground.</td><td></td></tr>
<tr><td>34</td><td>X-TAL IN</td><td>Input for crystal oscillator.</td><td></td></tr>
<tr><td>35</td><td>X-TAL OUT</td><td>Output for crystal oscillator.</td><td></td></tr>
<tr><td>36</td><td>C.MUTE</td><td>Control port for Center Signal mute.</td><td>H/L</td></tr>
<tr><td>37</td><td>S.MUTE</td><td>Control port for Surround Signal mute.</td><td>H/L</td></tr>
<tr><td>38</td><td>T/M MUTE</td><td>Control port for Tape Monitor Signal mute.</td><td></td></tr>
<tr><td>39</td><td>M.MUTE</td><td>Control port for Main Signal mute.</td><td>H</td></tr>
</table>

Pin No.	Symbol	Description	Active Logic
40 - 43	K3 - K0	Data input for key scan.	H
44	DATA - 7073	Data start of LC-7073.	
45	PWR-DOWN	Input for detecting power down.	L
46	D-LINK	Input/Output for controlling DIGI-LINK.	H
47	RMC	Input for remote control data.	
48	V_{SS}	Ground.	
49	ST-BY LED	Output for driving stand-by LED.	H
50	ST-4094	Strobe port of M-14094.	H
51	VID3	Control port for VIDEO-3.	
52	V_{dd}	+5V power supply.	
53	T.MUTE	Control port for Tuner Signal mute.	H
54	VOL.UP	Output to drive volume motor for increasing volume level.	H
55	VOL.DOWN	Output to drive volume motor for decreasing volume level.	H
56	RDS MODE	Control port for RDS mode.	H
57	VID2	Control port for VCR2	
58	VID1	Control port for VCR1.	
59 - 70	SEG 16 - 5	Segment signal output for FIP.	
71	Vload	-30 V power supply for FIP.	
72-75	SEG 4 - 1	Segment signal output for FIP.	
76 - 80	GRID 1 - 5	Grid signal output for FIP.	

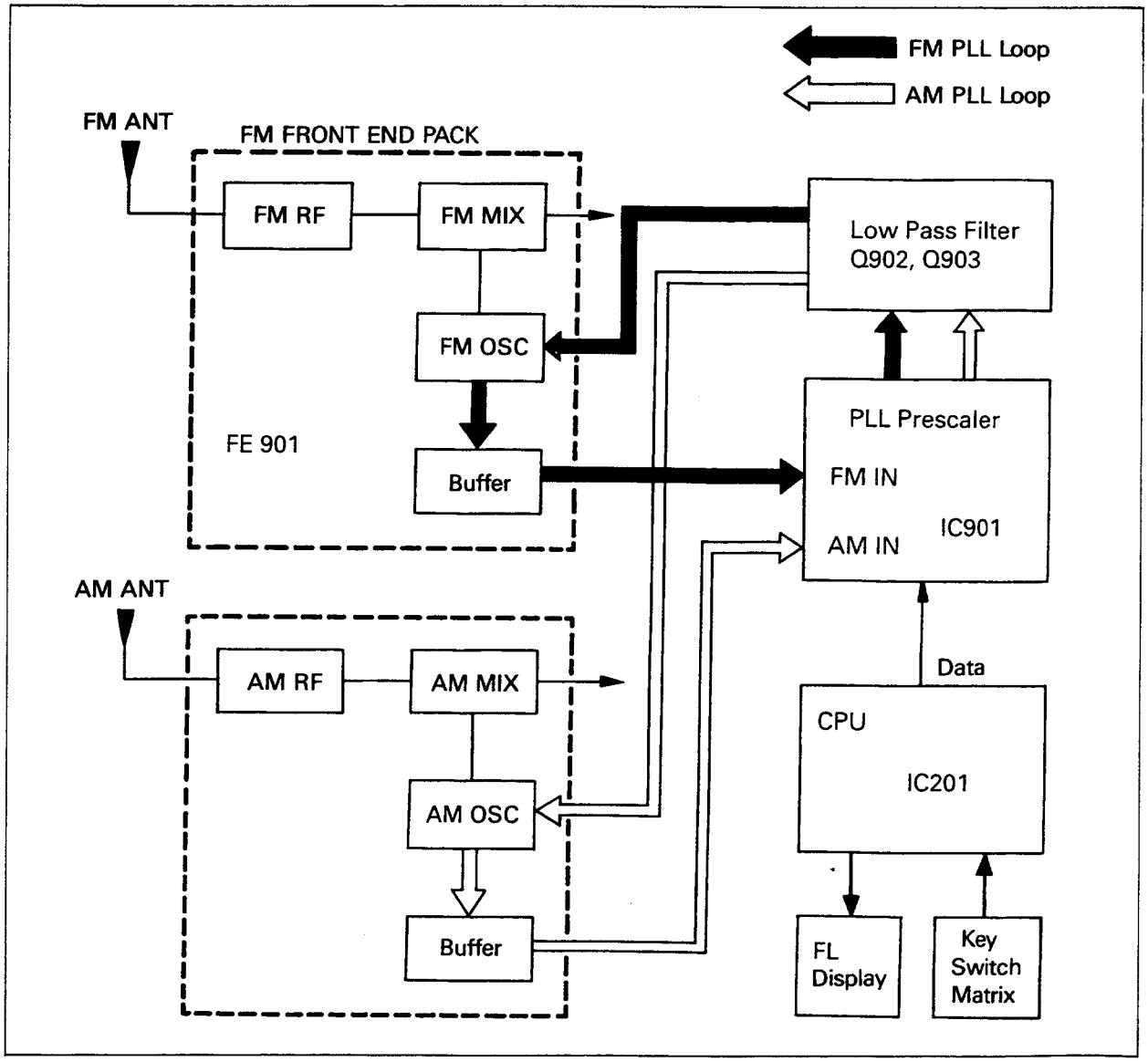
3. Block Diagram



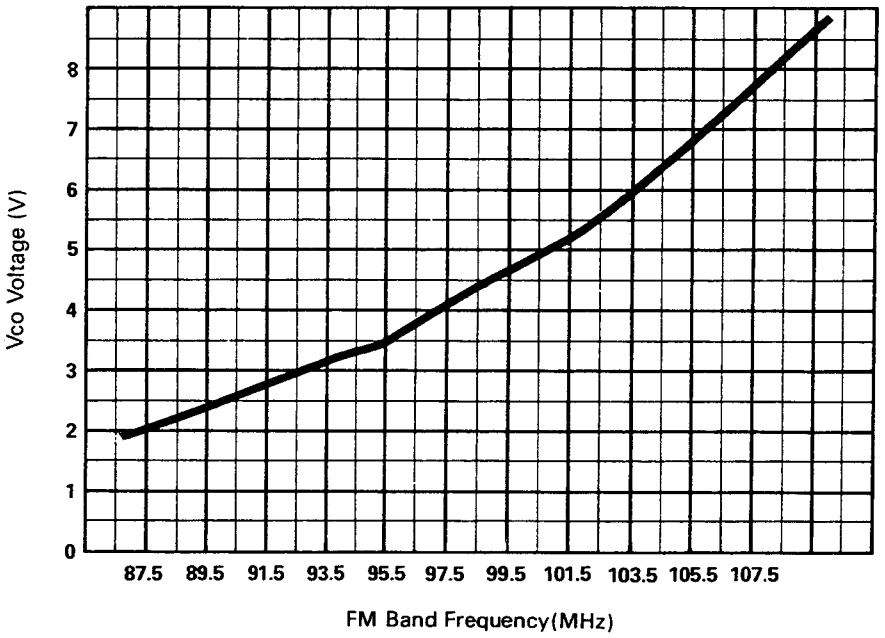
4. Key Matrix

OUT / IN	KSCAN0 PIN 61	KSCAN1 PIN 62	KSCAN2 PIN 63	KSCAN3 PIN 64	KSCAN4 PIN 65	KSCAN5 PIN 66	KSCAN6 PIN 67	KSCAN7 PIN 68
KEY IN0 PIN 43	DISPLAY	AM	TAPE 1 /DCC	TAPE 2 MON.	CD	1	VCR 2	VCR 1
KEY IN1 PIN 42	RDS	PHONO	FM	4	2	DIRECT	△	▽
KEY IN2 PIN 41	AF	CENTER MODE	5	9	3	6		
KEY IN3 PIN 40	DTY	SURROUND MODE	0	8	7	MEMORY	AUTO /MANU	FM MODE

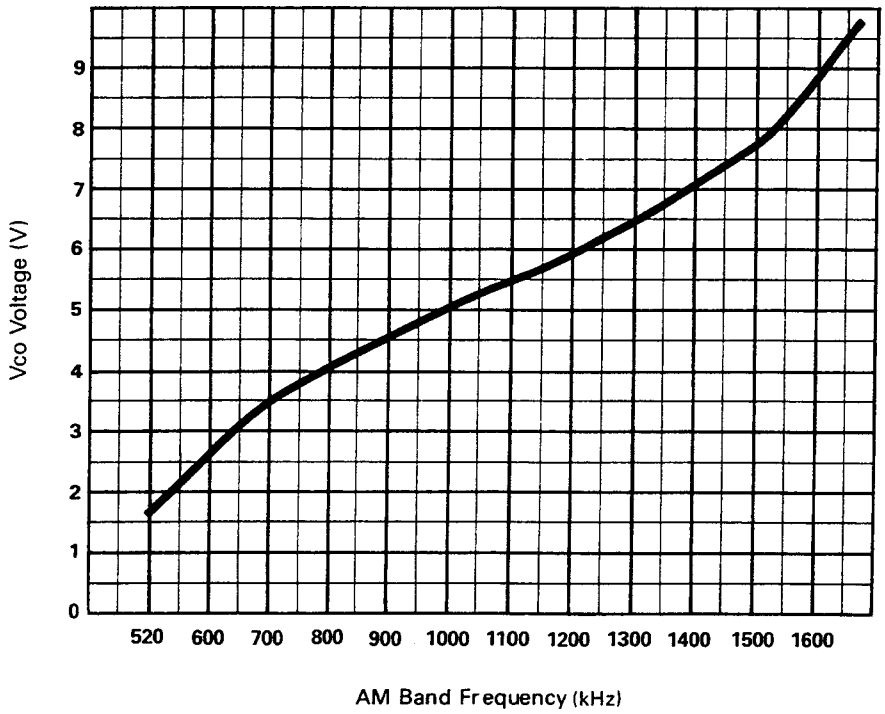
5. Digital Tuning System Description



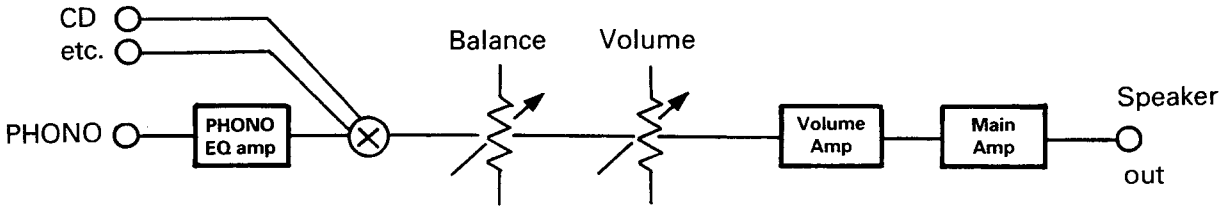
• **Vco vs. FM Band Frequency Curve**

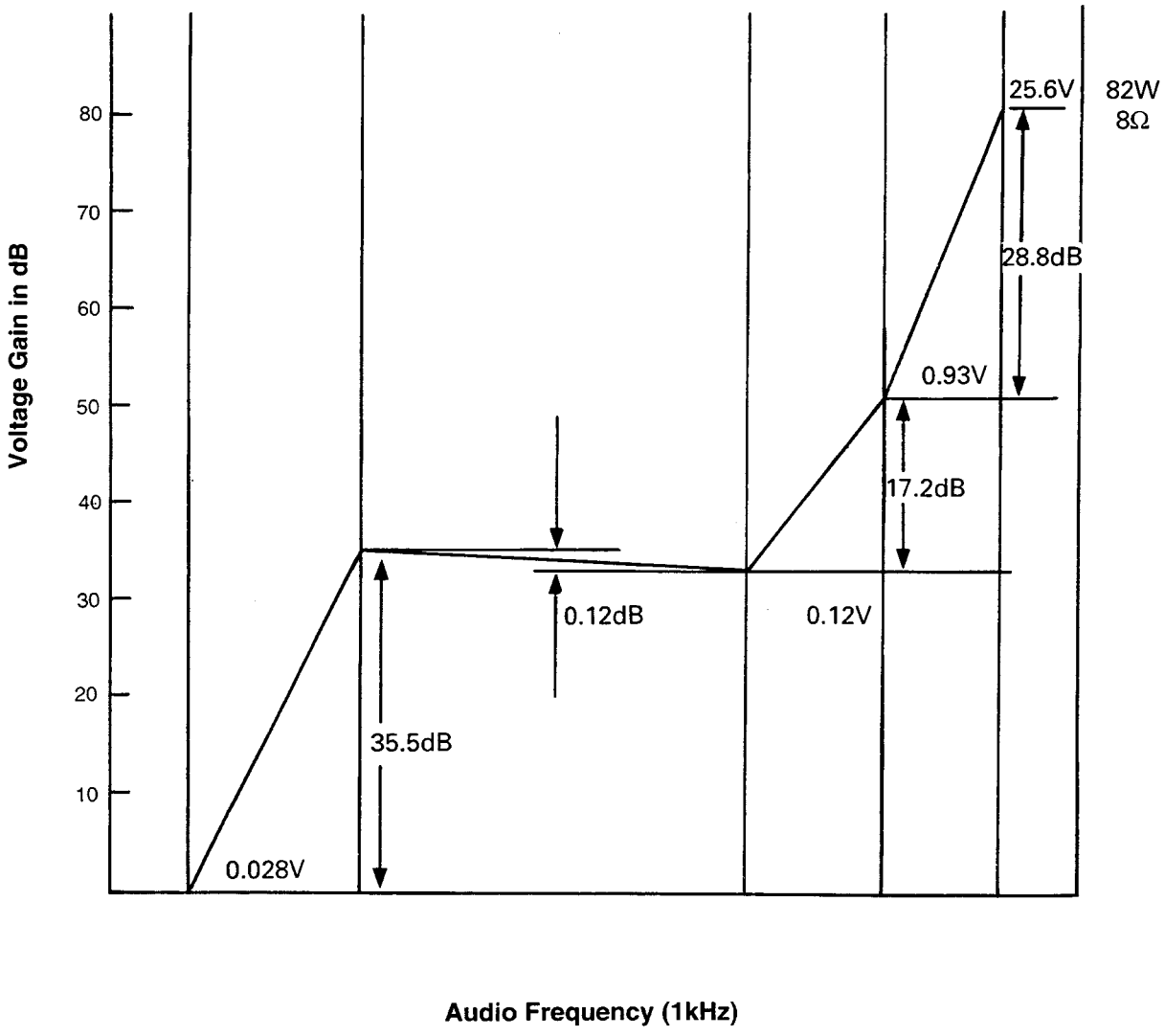


• **Vco vs. AM Band Frequency Curve**



6. Level Diagram

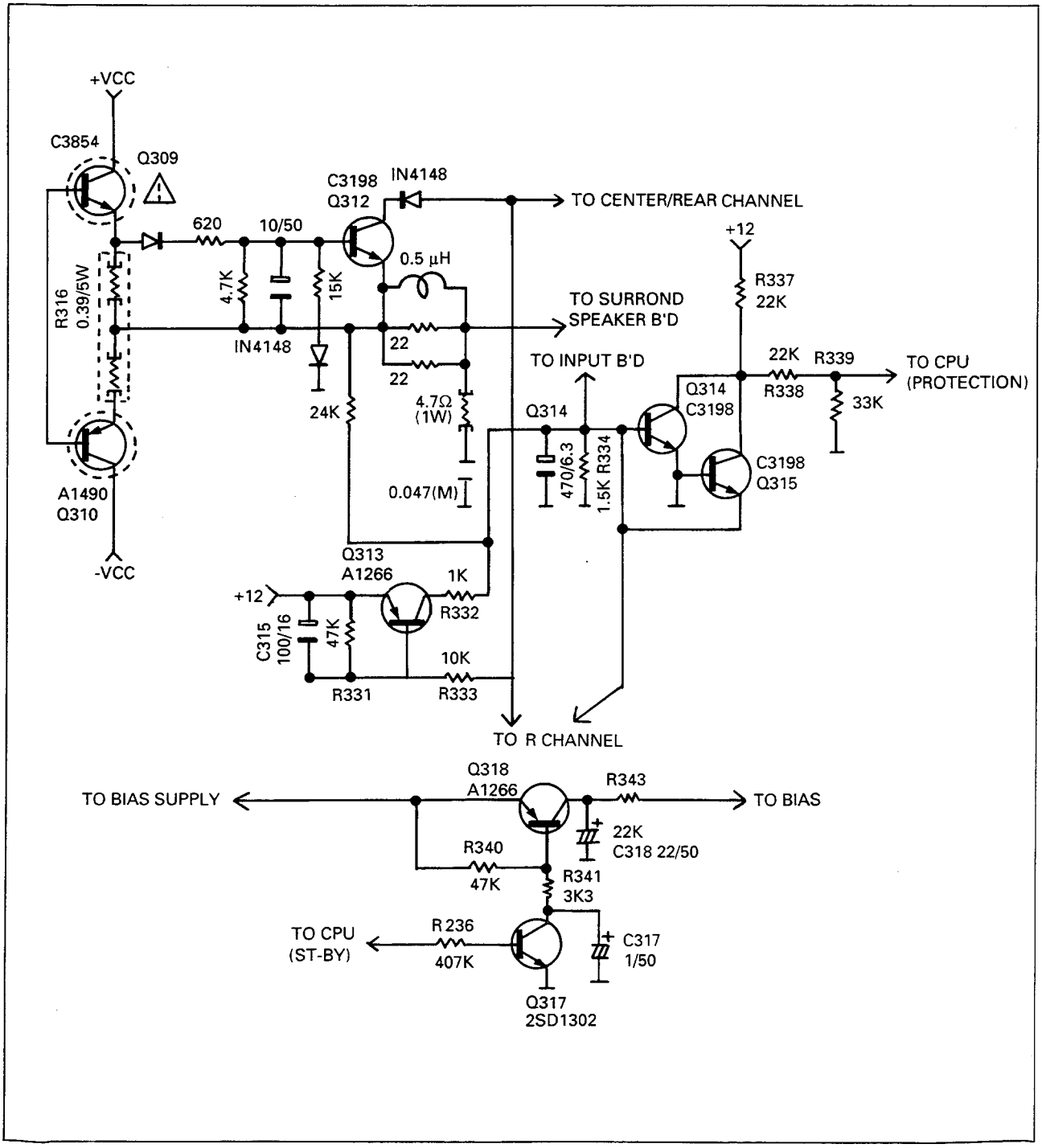




7. Protection Circuits

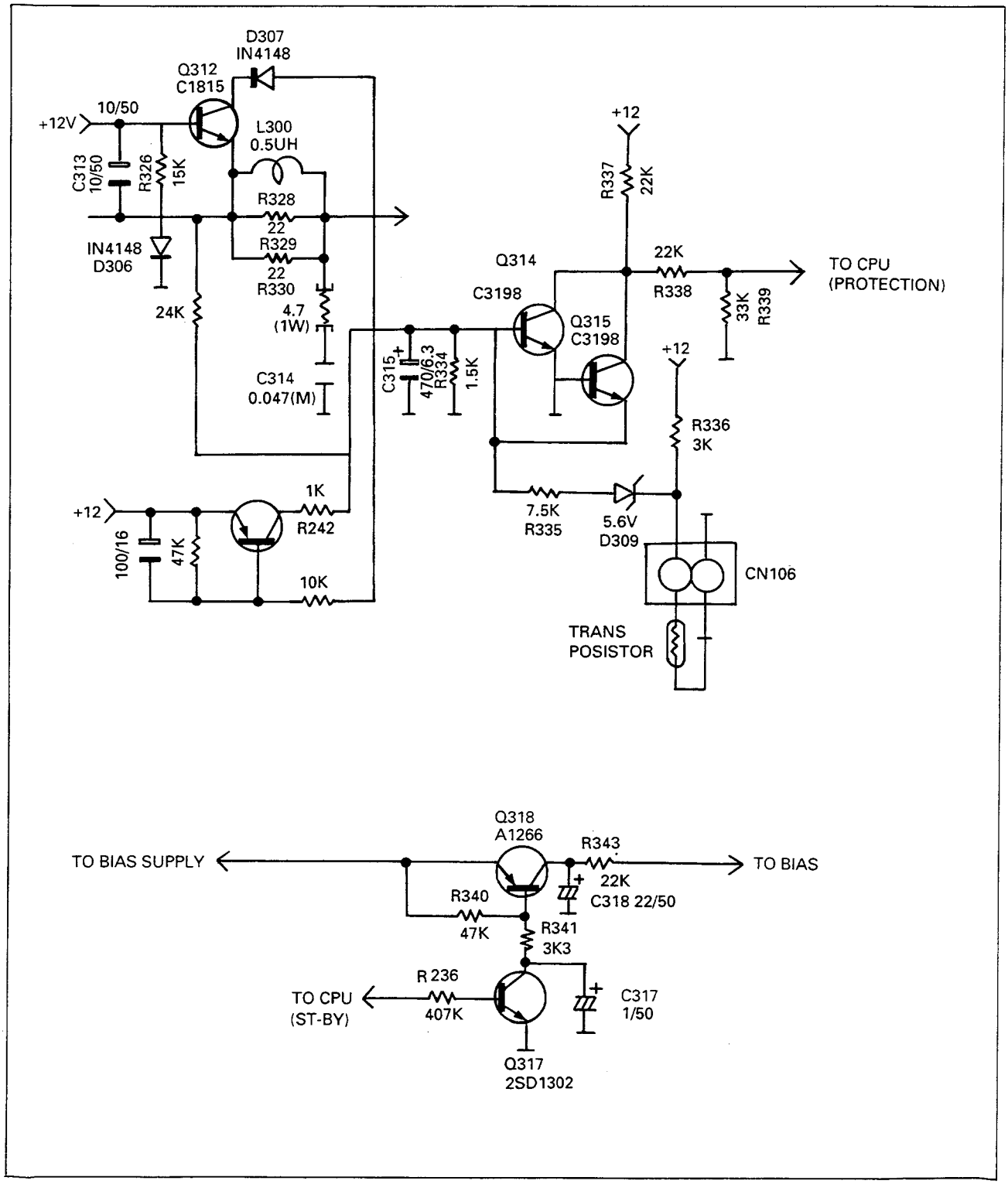
• Speaker Protection Circuits

The CPU protects both this unit and the speakers when an abnormally high current fllows in Q309 L/R/C/S and Q310 L/R/C/S due to excessive input drive, too low of a load impedance, or short of the speaker terminals.
If current increase is excessive the voltage across R316 L/R/C/S turns on Q312 L/R/C/S, then Q313 turns and Q314. It makes the protection port of the CPU to low state, and the CPU turns off Q317 and Q316. Then this unit goes to stand-by mode.



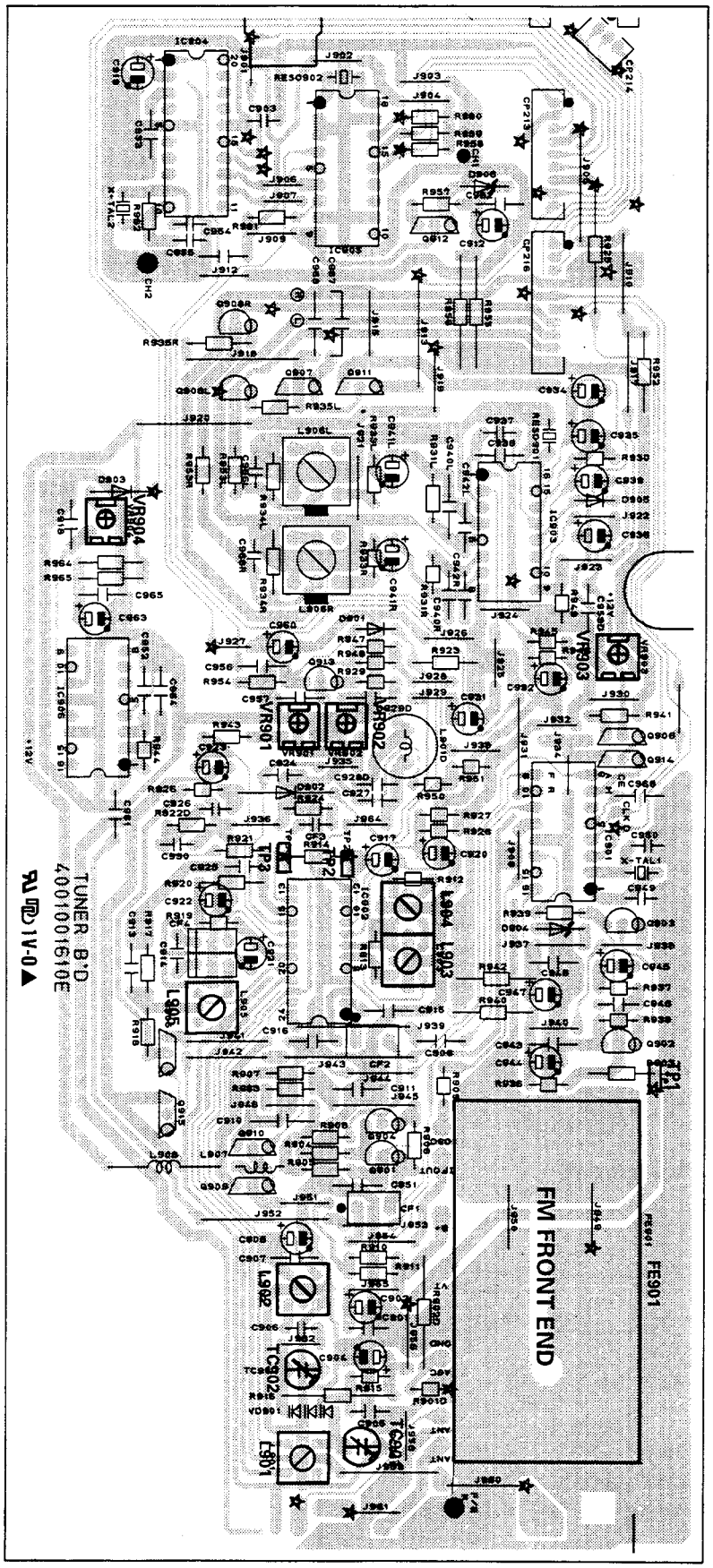
• Thermal Protection Circuits

This receiver has a overload thermal protection circuits to guard against abnormal operation.
When the temperature of TRANS POSISTOR installed with the main transformer rises abnormally, the resistance of the posistor becomes larger and Q314 is turned on.
It makes the protection port of the CPU to Low state, and the CPU turns off Q317 and Q313.
Then this unit goes to stand-by Mode.



ALIGNMENT PROCEDURES

Adjustment and Test Points (Tuner P.C. Board)



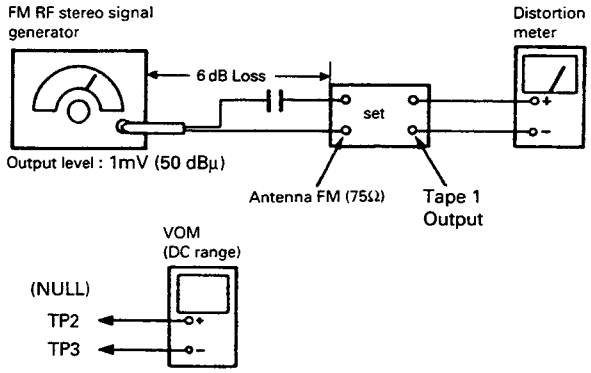
Before adjustments, refer to "Adjustments and Test Points" on Page 17.
Note: As a front-end (FE901) is difficult to repair if faulty, replace it with new one.

FM SECTION

• Standard Setting of FM stereo RF Signal Generator.

STEREO STANDARD SIGNAL	MONAURAL STANDARD SIGNAL
Carrier frequency : 98.0 MHz	98.0 MHz
Modulation : Audio 1 kHz, 40 kHz deviafion.	1 kHz, 45 kHz deviation
Pilot 19 kHz, 7.5 kHz deviation	

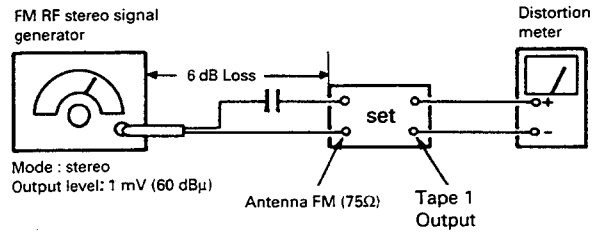
FM Discriminator Adjustment.
(NULL and MONO Distortion)



Procedure :
1. Tune the set to 98.0 MHz.
2. Adjust L903 for 0 V reading on the VOM. ···NULL
3. Adjust L904 for a minimum reading on the distortion meter. ·····MONO Distortion
4. Repeat the adjustments of 2 and 3 several times.

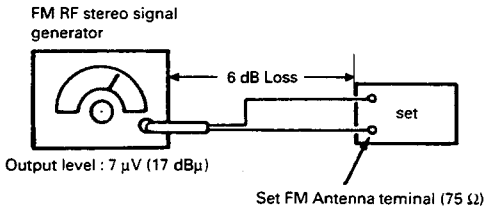
Note : When replacing the ceramic filter, perform this alignment.

FM Stereo Distortion Adjustment



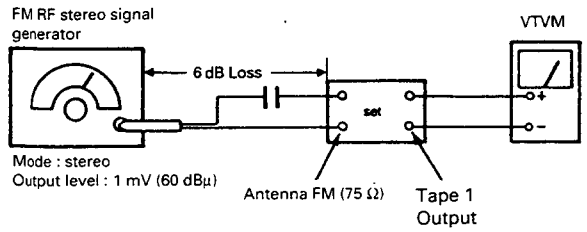
Procedure :
1. Tune the set to 98.0 MHz. Set SSG. output level to 1 mV (60 dBμ)
2. Adjust IFT in FE 901 for a minimum reading on the distortion meter.

FM Tuned Indication Lighting Level Adjustment



Procedure :
1. Tune the set to 98.0 MHz. Set SSG output level to 17 dBμ.
2. Adjust VR 902 to the place where "TUNED" indicator lights.

FM Stereo Separation Adjustment



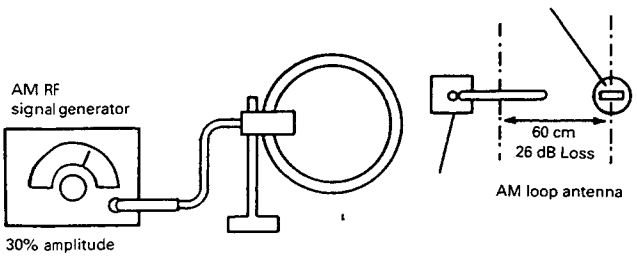
Procedure :

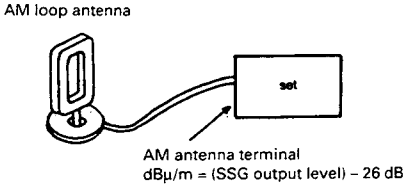
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH.	L-CH.	Ⓐ
R-CH.	L-CH.	Ⓑ Adjust VR903 minimum reading.
R-CH.	R-CH.	Ⓒ
L-CH.	R-CH.	Ⓓ Adjust VR903 for minimum reading.

L-CH. Stereo separation : Ⓐ – Ⓑ
R-CH. Stereo separation : Ⓒ – Ⓓ

The separation of both channels should be equal.

AM SECTION

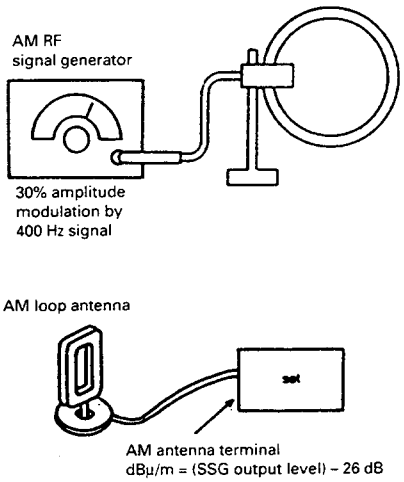

AM RF signal generator
60 cm
26 dB Loss
AM loop antenna
30% amplitude modulation by 400 Hz signal
Output Level : 80 dB(+26 dB Loss)
603 kHz, 999 kHz, 1404 kHz



AM VT(Tunning Voltage) Adjustment

1. Set to AM 522 kHz and adjust L902 so that voltage of TP1 becomes 1.1V ±0.05V
2. Set to AM 1611 kHz and adjust TC902 so that voltage of TP1 becomes 8.4 ±0.05V
3. Repeat the above adjustments 1 and 2.

AM Tracking Adjustment


AM RF signal generator
30% amplitude modulation by 400 Hz signal
AM loop antenna
set
AM antenna terminal
dBμ/m = (SSG output level) – 26 dB

1. Set to AM 603 kHz and adjust L901 to maximize AUDIO output level.
2. Set to AM 1404 kHz and adjust TC901 to maximize AUDIO output level.
3. Set to AM 999 kHz and adjust L905 to maximize AUDIO output level.
4. Repeat the above adjustments 1, 2 and 3.

AM TUNED Level Adjustment

Procedure :

1. Set SSG output level so that antenna input level of the set becomes 630 μV (56 dBμ/m).
2. Adjust VR901 to the place where "TUNED" indicator lights.

TROUBLESHOOTING

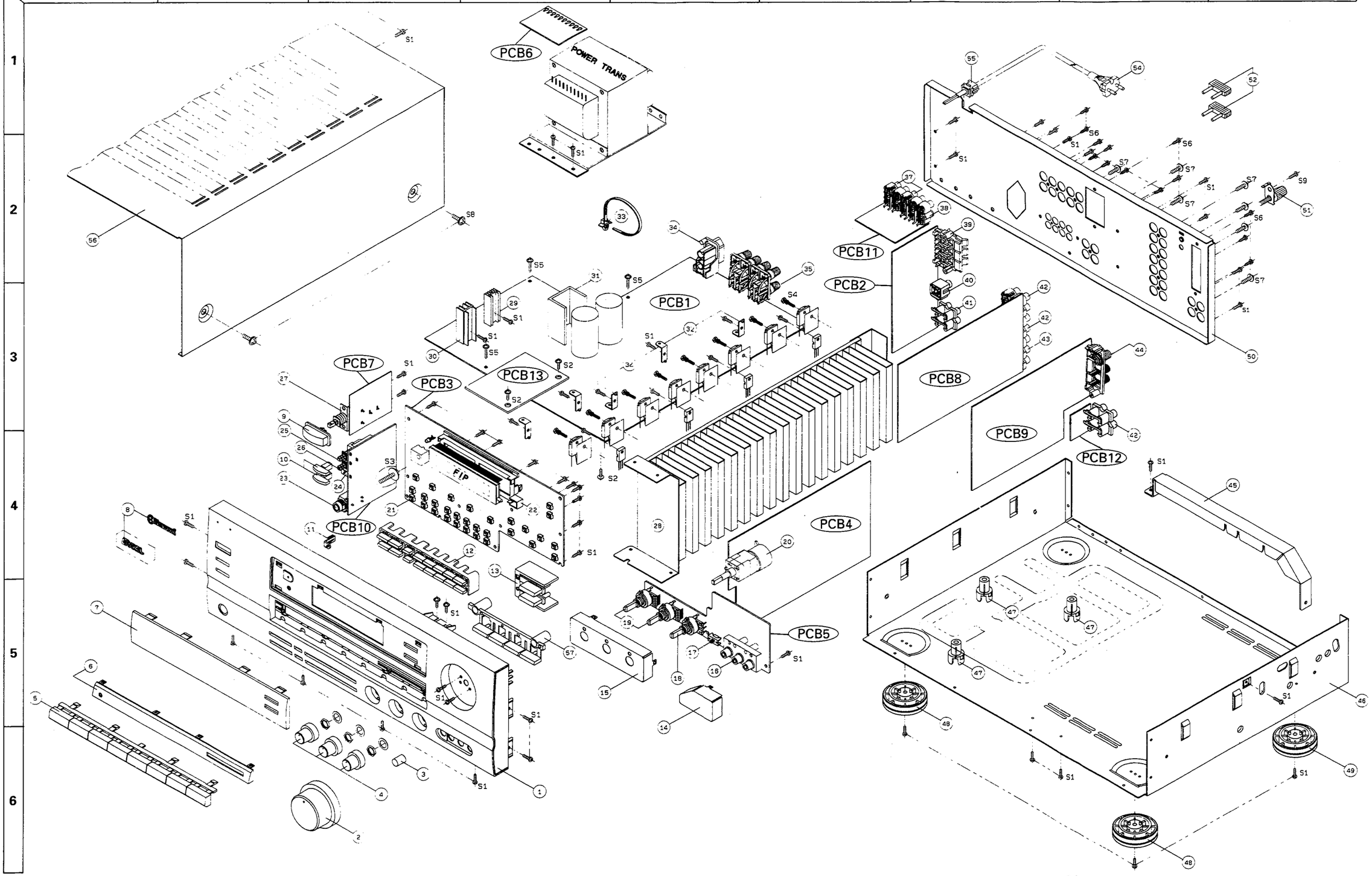
Symptom	Cause and Remedy
Receiver inoperative (FL indicator does not light)	A) Faulty AC power cord. Replace. B) Defect in the power switch. Replace. C) Broken wire in the power transformer. Replace the power transformer. D) Blown fuse. Replace the fuse.
Fuse blows when power is turned on.	A) Defective power transformer. Replace. B) Short in the primary or secondary of the transformer circuitry. Repair the short. C) Damaged rectifier D361. Replace the defective component(s). D) Short circuit in the rectifier circuit. Repair the short.
Power indicator lights but no sound from both channels	A) Speaker switch A or B defective. Replace the defective switch(es). B) Defect in transistor Q309 L/R, Q310 L/R on the Main Board. Replace the defective component(s).
Speaker A inoperative	A) Speaker switch A defective. Replace.
Speaker B inoperative	A) Speaker switch B defective. Replace.
One channel does not work when volume is at maximum with a test signal applied to the center terminal of volume control VR5 of the dead channel.	A) Defect in transistor Q309 L/R, Q310 L/R on the Main Board. Locate and correct the defect. B) Break in copper foil of printed circuit board. Repair the short. C) Short in speaker output terminal. Repair or replace.
Speaker works normally but headphones inopertive.	A) Headphone plug does not mate with jack. Replace the plug. B) Defective resistors R601 L/R. Replace.
PHONO input inoperative	A) Poor contact in phono input jack. Repair or replace the jack. B) Defective phono switch or IC 106. Replace.
FM inoperative	A) Defective front-end. (FE407-G60) Replace. B) Defective FM switch Replace the switch.

Symptom	Cause and Remedy
FM inoperative	C) Defective transistor Q902, Q904, Q908 L/R Q907, and IC901, IC902. Replace the defective transistor(s) or IC(s). D) Defective coil L903 or L904 Replace the coil(s). E) Defective lead-in. Repair or replace the lead-in. F) Ceramic filter CF1, CF2, defective. Replace the defective ceramic filter(s). G) Defective controller circuit component. Replace.
Poor multiplex separation	A) Improper adjustment. Readjust VR903. (Refer to stereo seperation adjustment) B) IC903 defective. Replace. C) Variable resistor VR903. Replace the variable resistor(s).
STEREO indicator does not light	A) Defective indicator in FL. Replace. B) Improper adjustment of VR903 of tuner board. Make readjustment. C) Defective IC903 Replace the defective component.
FM volume not sufficient	A) If volume from both L and R channels is not loud enough : Front-end Section defective Faulty IC902, Coil L903. If sound of one channel is not loud enough : Defective L906 L/R
FM Mono has no effect	A) Defective FM MODE switch. Replace.
AM inoperative	A) Damaged IC902 of tuner board. Replace. B) Defective L901, L902, L905 or CF4 of tuner board. Replace the defective component(s). C) Resistor R915, R916 Replace the defective component(s). D) Capacitor C906, C926, C914 defective. Replace the defective capacitor(s). E) Defective AM switch. Replace. F) Defective varicap diode VD901. Replace varicap diode(s). G) Damaged AM loop antenna. Repair or replace. H) Defective controller circuit component. Replace.
Bass control has no effect	A) Variable resistor VR201 defective. Replace. B) Defective R236L/R, R237L/R, C212L/R, C213L/R. Replace the defective component(s).

Symptom	Cause and Remedy
Treble control has no effect	A) Variable resistor VR202 defective. B) Defective R238 L/R, R239 L/R, C214 L/R, C215 L/R Replace the defective component(s).
Auto tune inoperative (UP/DOWN)	A) Poor contact in UP/Down key. Repair replace. B) Defective IC201 Replace. C) Defective FL Display. Replace. D) Defective tuner circuit component. Replace. E) In case of FM only, improper adjustment of FM fron-end. Replace.
Manual tune inoperative(UP/DOWN) (AM or FM)	A) Poor contact in Up/Down key. Replace. B) Defective IC201. Replace.
Memory setting(keys 1-10) inoperative	A) Poor contact in memory keys 1-10. Replace. B) Poor contact in memory set key. Replace. C) Defective IC201. Replace the defective component.
FL inoperative	A) FL defective. Replace. B) Defective IC201. Replace. C) Defective RESO201. Replace.
Noise Volume control	A) Defective IC504 Replace. B) Defective capacitor C574 or C575. Replace the defective capacitor(s).
Remote Control Unit inoperative	A) Weak Battery. Replace. B) Defective. Replace. C) Defective IC201(CPU Board) or IC1. Replace.

EXPLODED VIEW

Model No. : RV-5050RDS



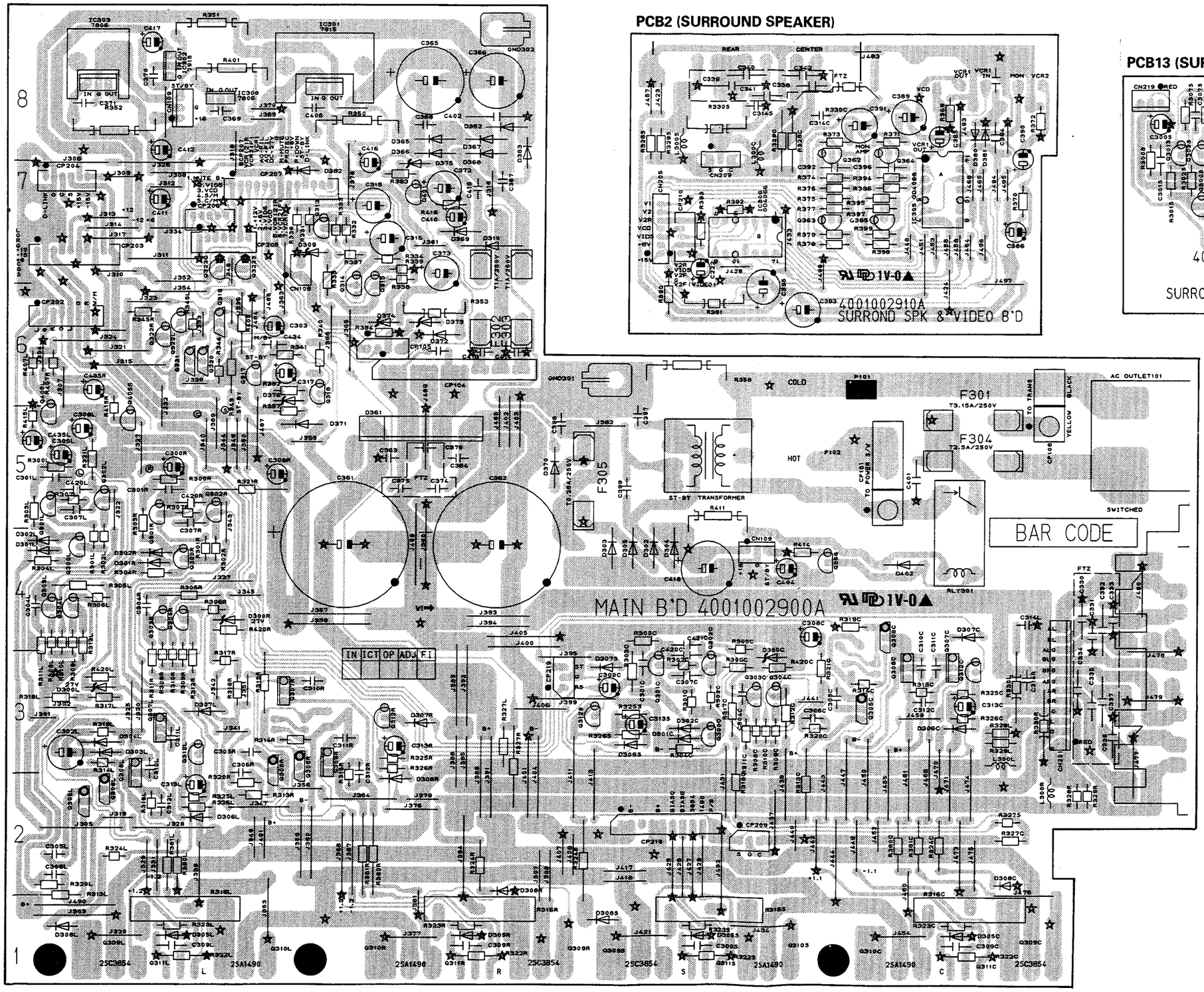
23

24

PRINTED CIRCUIT BOARDS

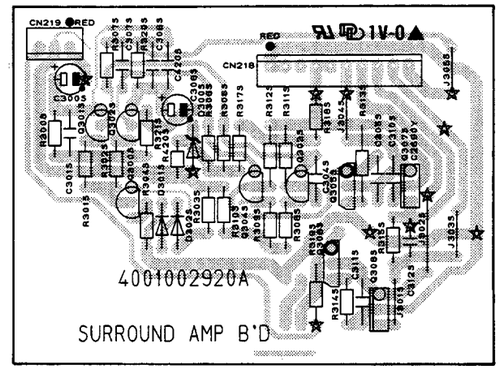
Model No. : RV-5050RDS

PCB1 (MAIN)

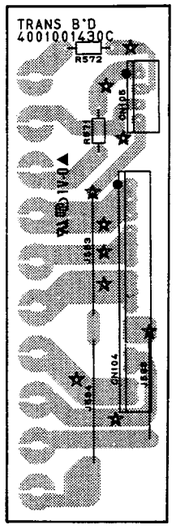


PCB2 (SURROUND SPEAKER)

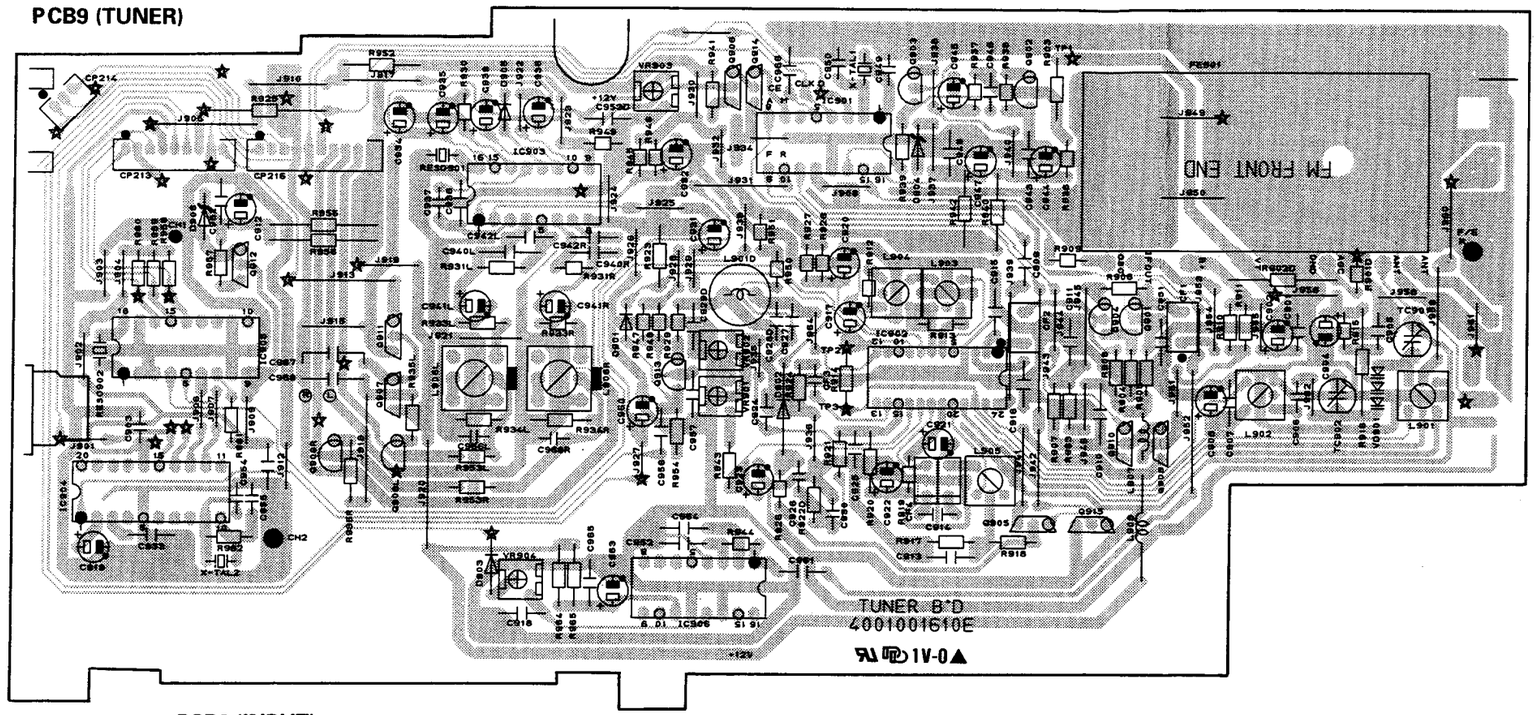
PCB13 (SURROUND AMP)



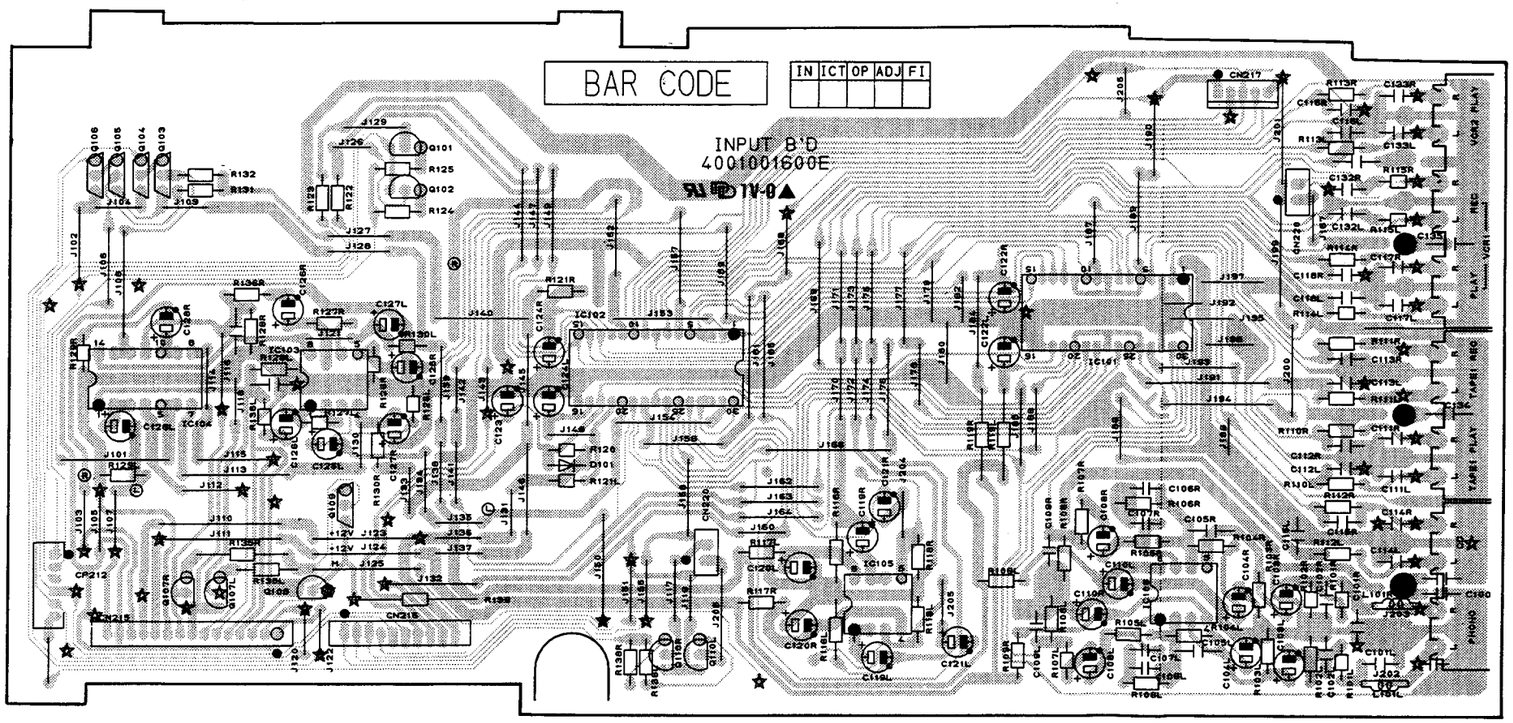
PCB6 (TRANS)



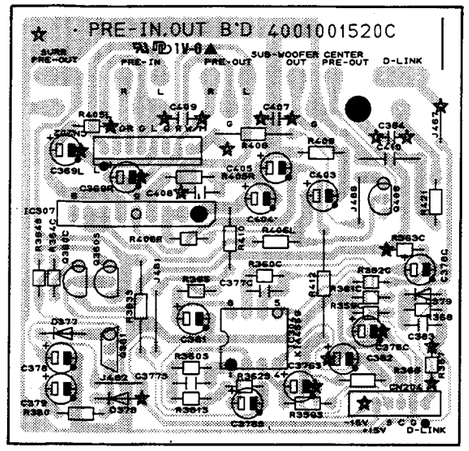
PCB9 (TUNER)



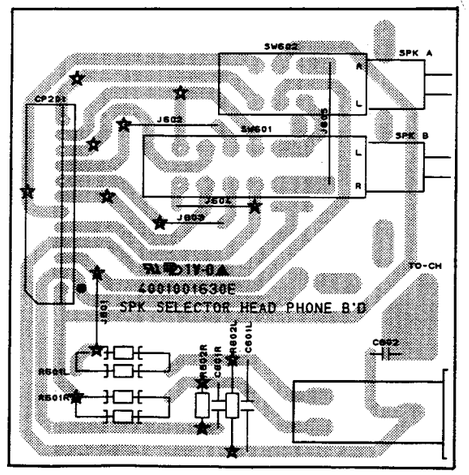
PCB8 (INPUT)



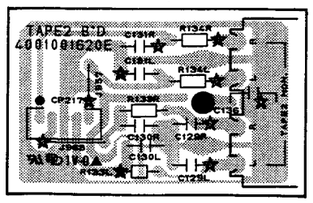
PCB11 (PRE IN/OUT)



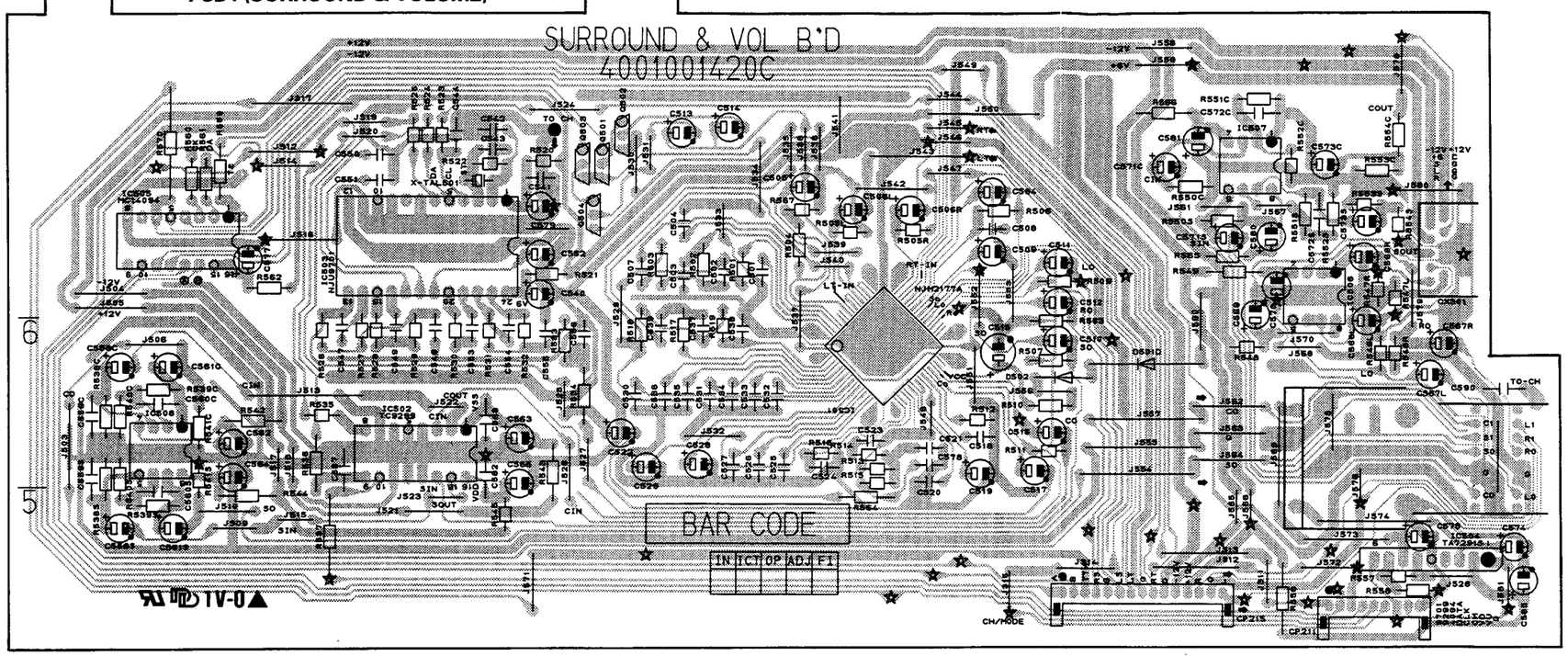
PCB10 (SPEAKER SELECTOR & HEADPHONE)



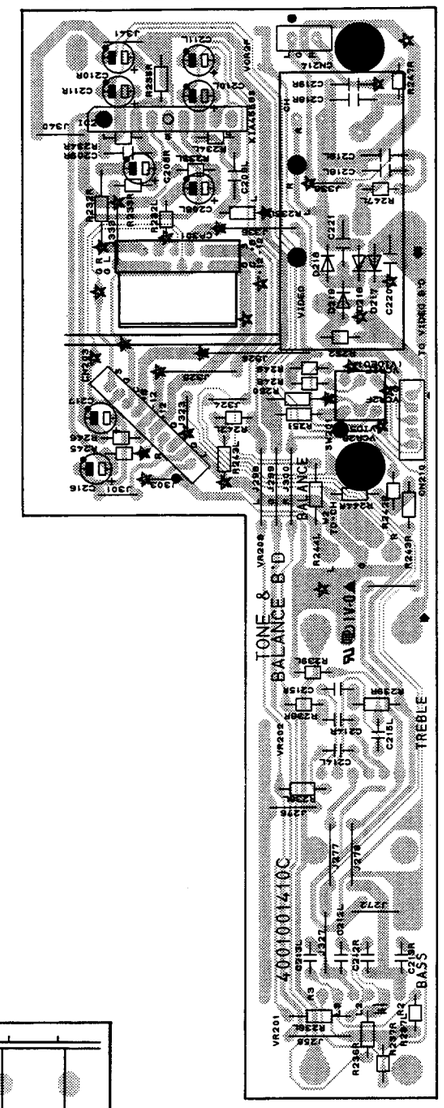
PCB12 (TAPE2)

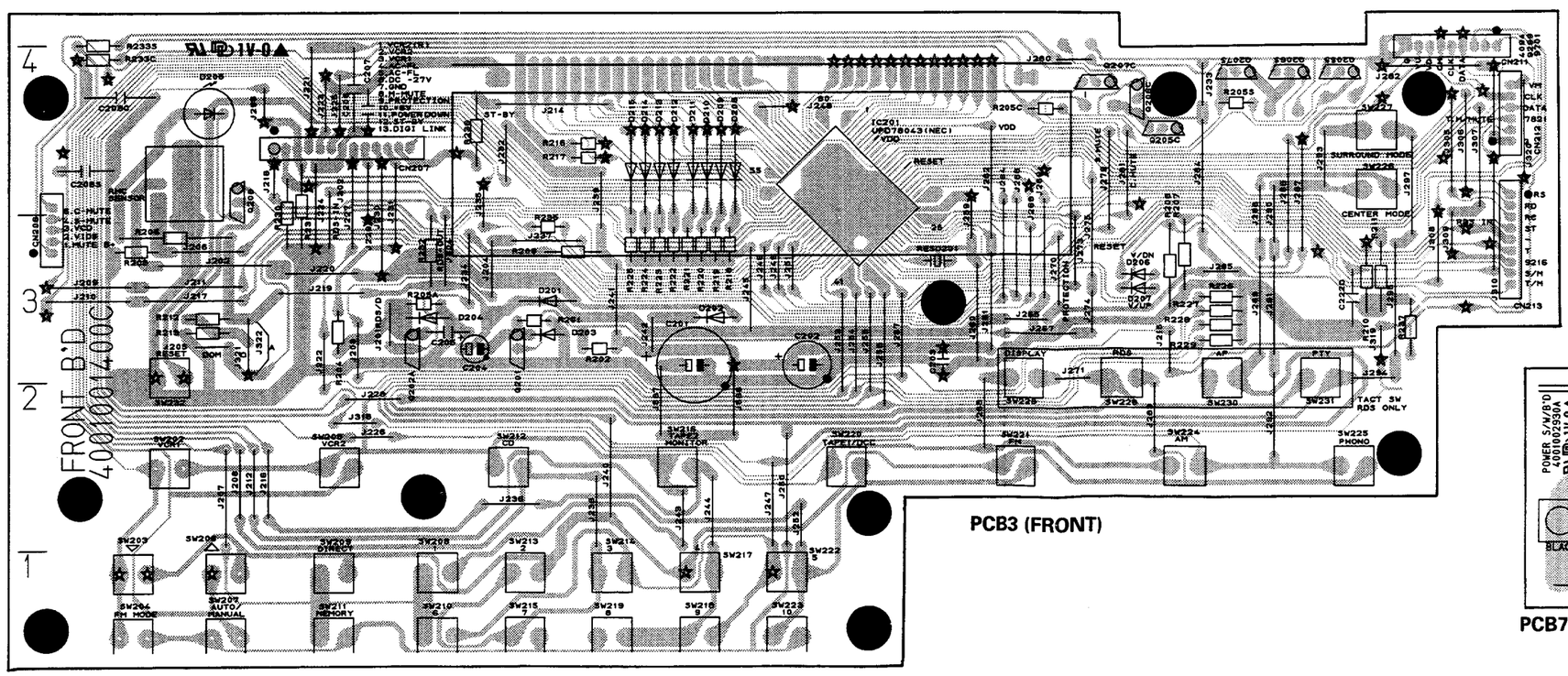


PCB4 (SURROUND & VOLUME)

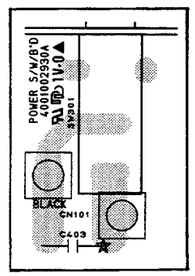


PCB5 (TONE & BALANCE)





PCB3 (FRONT)



PCB7 (POWER SWITCH)

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTICE : Products marked with ⚠ have special characteristics important to safety.
If you replace any of these components, read carefully the product safety notice in this manual.
Don't degrade the safety of the product through improper servicing.
Resistor/Capacitor tolerance – D : (±0.5%), J : (±5%), K : (±10%), M : (±20%), Z : +80, – 20%)

Ref. No.	Description					Mfr. Part No.	Q'ty
PCB1	**ASSEMBLY P.C.BOARD MAIN**					**054002009056**	
	CAPACITORS						
C222	Electrolytic SG	33	uF	25 V	M	3479333041	1
C300C	Electrolytic SG	4.7	uF	50 V	M	3479347971	1
C300L/R	Electrolytic SG	4.7	uF	50 V	M	3479347971	2
C301C	Ceramic Tubular	220	pF	50 V	J	3519221935	1
C301L/R	Ceramic Tubular	220	pF	50 V	J	3519221935	2
C302L	Electrolytic SG	470	uF	16 V	M	3409347139	1
C303	Electrolytic SG	2.2	uF	50 V	M	3479322971	1
C304C	Ceramic Disc	18	pF	50 V	J	3579180130	1
C304L/R	Ceramic Disc	18	pF	50 V	J	3579180130	2
C305C	Ceramic Disc	18	pF	50 V	J	3579180130	1
C305L/R	Ceramic Disc	18	pF	50 V	J	3579180130	2
C306C	Ceramic Disc	47	pF	50 V	K	3579470130	1
C306L/R	Ceramic Disc	22	pF	50 V	J	3579220130	2
C307C	Ceramic Disc	330	pF	50 V	J	3579331130	1
C307L/R	Ceramic Disc	330	pF	50 V	J	3579331130	2
C308C	Electrolytic SG	47	uF	16 V	M	3479347031	1
C308L/R	Electrolytic SG	47	uF	16 V	M	3479347031	2
C309C/S	Ceramic Disc	560	pF	50 V	J	3579151130	2
C309L/R	Ceramic Disc	560	pF	50 V	J	3579151130	2
C310C	Ceramic Disc	150	pF	50 V	J	3579151130	1
C310L/R	Ceramic Disc	150	pF	50 V	J	3579151130	2
C311C	Ceramic Disc	220	pF	50 V	J	3579221130	1
C311L/R	Ceramic Disc	220	pF	50 V	J	3579221130	2
C312C	Mylar	0.047	uF	100 V	J	3679473120	1
C312L/R	Mylar	0.047	uF	100 V	J	3679473120	2
C313C/S	Electrolytic SG	10	uF	50 V	M	3479310071	2
C313L/R	Electrolytic SG	10	uF	50 V	M	3479310071	2
C314C/S	Mylar	0.047	uF	100 V	J	3679473120	2
C314L/R	Mylar	0.047	uF	100 V	J	3679473120	2
C315	Electrolytic SG	100	uF	16 V	M	3479310131	1
C316	Electrolytic SG	470	uF	6.3 V	M	3479347111	1
C317	Electrolytic SG	47	uF	25 V	M	3479347041	1
C318C	Ceramic Tubular	10	pF	50 V	J	3519100935	1
C318L/R	Ceramic Tubular	10	pF	50 V	J	3519100935	2
C330/331	Ceramic Tubular	1000	pF	50 V	J	3519102935	2
C332	Ceramic Tubular	0.01	uF	50 V	Z	3519103935	1
C334/335	Ceramic Tubular	1000	pF	50 V	J	3519102935	2
C337	Ceramic Tubular	0.01	uF	50 V	Z	3519103935	1
C338/339	Ceramic Tubular	4700	pF	16 V	Z	3519472915	2
C342	Ceramic Tubular	0.047	uF	16 V	Z	3519473915	1
⚠ C361/362	Electrolytic HS	6800	uF	63 V	M	3419568280	2
C363/364	Mylar	0.1	uF	250 V	K	3679104257	2
⚠ C365	Electrolytic SG	2200	uF	35 V	M	3409322261	1
⚠ C366	Electrolytic SG	1000	uF	35 V	M	3409310269	1
C367/368	Mylar	0.047	uF	100 V	J	3679473120	2
C369-C371	Mylar	0.0001	uF	100 V	J	3679102120	3
C372	Electrolytic SG	47	uF	50 V	M	3479347071	1
C373	Electrolytic SG	100	uF	16 V	M	3479310131	2
C374-C376	Mylar	0.1	uF	250 V	J	3679104257	3
C385/386	Electrolytic SG	33	uF	25 V	M	3479333041	2
C389	Electrolytic SG	470	uF	10 V	M	3479347121	1
C390	Electrolytic SG	33	uF	25 V	M	3479333041	1
C391	Electrolytic SG	470	uF	10 V	M	3479347121	1
C392	Ceramic Tubular	3.3	pF	50 V	J	3519033935	1
C393	Electrolytic SG	470	uF	10 V	M	3479347121	1
C394	Ceramic Disc	0.1	uF	50 V	Z	3579104530	1
C395	Electrolytic SG	100	uF	35 V	M	3479310161	1
C396	Ceramic Tubular	3.3	pF	50 V	J	3519033935	1
C397-C399	Mylar	0.1	uF	250 V	K	3679104257	3
C401	Ceramic Disc	0.0047	uF	400 V	Z	3548472340	1
C402	Ceramic Disc	0.1	uF	50 V	Z	3579104530	1
C406	Mylar	0.0001	uF	100 V	J	3679102120	1
C410-C412	Electrolytic SG	10	uF	50 V	M	3479310071	3
C413-C415	Mylar	0.047	uF	100 V	J	3679472120	3
C416/417	Electrolytic SG	10	uF	50 V	M	3479310071	2
C418	Electrolytic SG	220	uF	25 V	M	34793221935	1
C420C	Ceramic Tubular	1000	pF	50 V	J	3519102935	1
C420L/R	Ceramic Tubular	220	pF	50 V	J	3519221935	2
C421C	Ceramic Tubular	1000	pF	50 V	J	3519102935	1
C434	Ceramic Disc	0.1	uF	50 V	Z	3579104530	1
C435L/R	Electrolytic SG	4.7	uF	50 V	M	3479347971	2
	CONNECTORS						
CN109	Lead Ass'y, 3P, 260mm					436103263681	1
CN201	Lead Ass'y, 12P, 400mm					436112403701	1
CP101	Wafer, 2P LV					4428525780	1
CP102	Pin Base, 1P					4428525860	1
CP104	Wafer, 15P					4428511810	1
CP105	Wafer, 4P					4428505610	1
CP106	Wafer, 2P					4428508210	1
CP107	Pin Base, 1P					4428525860	1
CP202	Wafer, 8P					4428516710	1
CP203	Wafer, 10P					4428516910	1

Ref. No.	Description	Mfr. Part No.	Q'ty
CP204	Wafer, 6P	4428516510	1
CP205	Wafer, 7P	4428516610	1
CP206	Wafer, 5P	4428516410	1
CP207	Wafer, 13P	4428517210	1
CP209	Wafer, 3P	4428505710	1
CP218	Wafer, 10P	4428510700	1
CP219	Wafer, 3P	4428505710	1
	DIODES		
D300C	Zener, UZ 27.0BSC	2258599115	2
D300L/R	Zener, UZ 27.0BSC	2258599115	2
D301C	1N4148, Switching	2058322101	2
D301L/R	1N4148, Switching	2058322101	2
D302-D305	1N4002, Rectifier	2258100135	4
D302C	1N4148, Switching	2058322101	1
D302L/R	1N4148, Switching	2058322101	2
D303L/R	1N4148, Switching	2058322101	2
D304L	1N4148, Switching	2058322101	1
D305C/S	1N4148, Switching	2058322101	2
D305L/R	1N4148, Switching	2058322101	2
D306C/S	1N4148, Switching	2058322101	2
D306L/R	1N4148, Switching	2058322101	2
D307C/S	1N4148, Switching	2058322101	2
D307L/R	1N4148, Switching	2058322101	2
D308C/S	1N4148, Switching	2058322101	2
D308L/R	1N4148, Switching	2058322101	2
D309	Zener, UZ 5.1BSB	2258599103	1
D310	1N4002, Rectifier	2258100135	1
⚠ D361	D5SBA60, Bridge Diode	2058512126	1
D362/363	1N4148, Switching	2058322101	2
D365-372	1N4002, Rectifier	2258100135	8
D373	Zener, UZ 6.2BSB	2258599105	1
D374	Zener, UZ 27.0BSC	2258599115	1
D375	Zener, UZ 8.1BSB	2258599123	1
D376	Zener, UZ12.0BSC	2258599116	1
D380-D382	1N4148, Switching	2058322101	3
D402	1N4002, Rectifier	2258100135	1
	FUSES		
⚠ F301	T 2.5 A, 250 V	5508302535	1
⚠ F302	T 1 A, 250 V	5508302035	1
⚠ F303	T 1 A, 250 V	5508302035	1
⚠ F304	T 3.15 A, 250 V	5508302735	1
⚠ F305	SB 0.25 A, 250 V	5508301234	1
	INTEGRATED CIRCUITS		
⚠ IC300	KA7806, Regulator	2168602106	1
⚠ IC301	KA7815, Regulator	2168602109	1
⚠ IC302	KA7915, Regulator	2168602114	1
⚠ IC303	KA7806, Regulator	2168602106	1
	COILS		
L300C	Inductor, 0.47 uH	2648647882	1
L300L	Inductor, 0.47 uH	2648647882	1
	TRANSISTORS		
Q300C	KTC2240BL/BKTC3200, NPN	2208606108	1
Q300L/R	KTC2240BL/BKTC3200, NPN	2208606108	2
Q301C	KTC2240BL/BKTC3200, NPN	2208606108	1
Q301L/R	KTC2240BL/BKTC3200, NPN	2208606108	2
Q302C	KTC2240BL/BKTC3200, NPN	2208606108	1
Q302L/R	KTC2240BL/BKTC3200, NPN	2208606108	2
Q303C	BKTC3198Y/KTC1815Y, NPN	2208606104	1
Q303L/R	BKTC3198Y/KTC1815Y, NPN	2208606104	2
Q304C	BKTC3198Y/KTC1815Y, NPN	2208606104	1
Q304L/R	BKTC3198Y/KTC1815Y, NPN	2208606104	2
Q305C	KTA1024Y, PNP	2208206115	1
Q305L/R	KTA1024Y, PNP	2208206115	2
Q306C	KTC3206Y, NPN	2208606118	1
Q306L/R	KTC3206Y, NPN	2208606118	2
Q307C	KSC2690Y, NPN	2008602102	1
Q307L/R	KSC2690Y, NPN	2008602102	2
Q308C	KSA1220AY	2008202101	1
Q308L/R	KSA1220AY	2008202101	2
⚠ Q309C/S	2SC3854, NPN, Power	2028416107	2
⚠ Q309L/R	2SC3854, NPN, Power	2028416107	2
⚠ Q310C/S	2SA1490, PNP, Power	2028116104	2
⚠ Q310L/R	2SA1490, PNP, Power	2028116104	2
Q311C/S	2SC4137, Bias	2008622110	2
Q311L/R	2SC4137, Bias	2008622110	2
Q312C/S	BKTC3198Y/KTC1815Y, NPN	2208606104	2
Q312L/R	BKTC3198Y/KTC1815Y, NPN	2208606104	2
Q313	BKTA1266Y/KTA1015Y, PNP	2208206105	1
Q314/315	BKTC3198Y/KTC1815Y, NPN	2208606104	2
Q317	2SD1302, NPN	2208606112	1

MECHANICAL PARTS LIST

Ref. No.	Description	Mfr. Part No.	Q'ty
	PACKAGE		
	Poly Bag	9705001520	1
	Box Carton	049604124173	1
	Cushion Poly	9722026710	1
	Film Soft PE	9715000510	1
	ACCESSORIES		
	Cord, Antenna	4348001110	1
	Assembly Commander	5418001021	1
	Manual Instruction	9007018222	1
	Antenna, AM Loop Stand Strip Wire	2608207360	1
	CABINET & CHASSIS		
1	Panel, Front	048501035321	1
2	Knob, Rotary, MAIN	048543064011	1
3	Button, Push	8545129610	1
4	Knob, Rotary, TONE	048545126111	1
5	Button, 8 key	048543065911	1
6	Decoration Dummy	8523013320	1
7	Window Display	048555051211	1
8	Badge, SHERWOOD	048535042011	1
9	Button, Power	8545126010	1
10	Button, Speaker	8545126210	2
11	indicator, Stand by LED	8555050310	1
12	Button, 16 key	8543063410	1
13	Button, 2 key	8545129510	1
14	Shield Fence, CDS	6165150910	1
15	Shield Fence, TONE	6165150810	1
16	Jack 3P, VIDEO "A"	4438109810	1
17	Switch, Push, VCR2 Sel.	4628054410	1
18	Volume, 100 kohm, BALANCE	3208052010	1
19	Volume, 100 kohmX2, TONE/BASS	3208049510	2
20	Volume, 50 kohm X4, MAIN	3228020110	1
21	Switch, tact	4658003710	31
22	Holder, F/L Guide	6043010210	1
23	Jack, PHONE	4438005010	1
24	Bracket, Speaker	6165149810	1
25	Switch, Push, 2/2	4628043810	1
26	Switch, Push, 4/2	4628049210	1
27	Switch, Power	4628056110	1
28	Heatsink, Power	7502008810	1
29	Heatsink, Regulator TR.	7505206120	1
30	Heatsink, Regulator TR.	7505206220	1
31	Heatsink, Regulator TR.	7505210510	1
32	Bracket, PCB	6505117210	4
33	Locking Tie	6528002810	1
34	⚠ Outlet, AC, 1P	4448103610	1
35	Terminal, Speaker, 8P, Screw Type	4408105810	1
36	Not Used !		
37	Jack, RCA, 6P	4438103210	1
38	Jack, RCA, 4P	4438108140	1
39	Terminal, Speaker, 6P, Push Type	4408107410	1
40	Not Used !		
41	Jack, RCA, 4P, GND	4438108120	1
42	Jack, RCA, 4P, GND	4438108110	3
43	Jack, RCA, 6P, GND	4438108010	1
44	terminal, Antenna, Screw Type	4408108210	1
45	Bracket, Guide PCB	6503031610	1
46	Chassis, Main	6121614410	1
47	Spacer	6705024310	3
48	Foot, Hot Stamping	046033102511	2
49	Foot, Hot Stamping	046033102511	2
50	Chassis, Back	046102043351	1
51	Terminal, Ground	4408103720	1
52	Plug, Jumper	4328204210	2
53	Not Used !		
54	⚠ Cord, AC Power	4308002310	1
55	Stopper holder	6518002310	1
56	Cover, Top	046122021231	1
57	Button, 4key	8543065810	1
	HARDWARE KIT		
S1	Screw, #2BTC 3X8B	8109230083	55
S2	Screw, #2WPTC 3X8Y	8159230081	7
S3	Screw, Mecha	8155001210	1
S4	Screw, Heatsink	8159000310	8
S5	Screw, #B WPTT 3X18Y	8179230181	3
S6	Screw, #1PT 3X10B	8119130103	9
S7	Screw, Ground	8155000710	8
S8	Screw, BSAM 4X8B	8109230083	4
	MISCELLANEOUS		
	⚠ Power Transformer, 230 V, 50 Hz	2828100801	1
	Ass'y Posistor, 280 mm	052438000283	1
	Ass'y Posistor, 200 mm	052438012201	1
PCB1	P.C.Board Main	4001002900	1
PCB2	P.C.Board Surround Speaker	4001002910	1
PCB11	P.C.Board Pre IN/OUT	4001001520	1
PCB4	P.C.Board Surround & Volume	4001001420	1
PCB3	P.C.Board Front	4001001400	1
PCB5	P.C.Board Tone & Balance	4001001410	1
PCB7	P.C.Board Power Switch	4001001440	1
PCB6	P.C.Board Trans	4001001430	1
PCB9	P.C.Board Tuner	4001001610	1
PCB8	P.C.Board Input	4001001600	1
PCB10	P.C.Board SPK SEL. & Headphone	4001001630	1
PCB12	P.C.Board Tape2	4001001620	1
PCB13	P.C.Board Surround Amp	4001002920	1

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the part list are of special significance to safety. When replacing a component identified with ⚠ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	Description	Mfr. Part No.	Q'ty
Q318	BKTA1266Y/KTA1015Y, PNP	2208206105	1
Q319/320	DTC114YS	2208622106	2
Q321	DTA114YS/KRA107M	2238006103	1
Q322C/S	2SD1302, NPN	2208606112	2
Q322L/R	2SD1302, NPN	2208606112	2
Q366	BKTC3198Y/KTC1815Y, NPN	2208606104	1
Q401	MPSA06Y	2208610102	1
Q405L/R	2SD1302, NPN	2208606112	2
	RESISTORS		
R300C	Carbon Film 47 kohm 1/5 W J	3069473970	1
R300L/R	Carbon Film 47 kohm 1/5 W J	3069473970	2
R301C	Metal Film 33 ohm 1/5 W J	3029330970	1
R301L/R	Metal Film 33 ohm 1/5 W J	3029330970	2
R302C	Metal Film 33 ohm 1/5 W J	3029330970	1
R302L/R	Metal Film 33 ohm 1/5 W J	3029330970	2
R303C	Carbon Film 62 kohm 1/5 W J	3069623970	1
R303L/R	Carbon Film 62 kohm 1/5 W J	3069623970	2
R304C	Carbon Film 2.2 kohm 1/5 W J	3069222970	1
R304L/R	Carbon Film 2.2 kohm 1/5 W J	3069222970	2
R305C	Carbon Film 1.2 kohm 1/5 W J	3069122970	1
R305L/R	Carbon Film 1.2 kohm 1/5 W J	3069122970	2
R306C	Carbon Film 1.2 kohm 1/5 W J	3069122970	1
R306L/R	Carbon Film 1.2 kohm 1/5 W J	3069122970	2
R307C	Metal Film 330 ohm 1/5 W J	3029331970	1
R307L/R	Metal Film 330 ohm 1/5 W J	3029331970	2
R308C	Metal Film 33 ohm 1/5 W J	3029330970	1
R308L/R	Metal Film 33 ohm 1/5 W J	3029330970	2
R309C	Metal Film 33 ohm 1/5 W J	3029330970	1
R309L/R	Metal Film 33 ohm 1/5 W J	3029330970	2
R310C	Carbon Film 12 kohm 1/5 W J	3069123970	1
R310L/R	Carbon Film 12 kohm 1/5 W J	3069123970	2
R311C	Metal Film 1 kohm 1/5 W J	3029102970	1
R311L/R	Metal Film 1 kohm 1/5 W J	3029102970	2
R312C	Metal Film 1 kohm 1/5 W J	3029102970	1
R312L/R	Metal Film 1 kohm 1/5 W J	3029102970	2
R313C	Metal Film 100 ohm 1/5 W J	3029101970	1
R313L/R	Metal Film 100 ohm 1/5 W J	3029101970	2
R314C	Metal Film 100 ohm 1/5 W J	3029101970	1
R314L/R	Metal Film 100 ohm 1/5 W J	3029101970	2
R315C	Metal Film 220 ohm 1/5 W J	3029221970	1
R315L/R	Metal Film 220 ohm 1/5 W J	3029221970	2
⚠ R316C/S	Cement, MPR Du 0.39 ohm 5 W J	3059039776	2
⚠ R316L/R	Cement, MPR Du 0.39 ohm 5 W J	3059039776	2
R317C	Metal Film 1 kohm 1/5 W J	3029102970	1
R317L/R	Metal Film 1 kohm 1/5 W J	3029102970	2
R318C	Metal Film 1.5 kohm 1/5 W J	3029152970	1
R318L/R	Metal Film 1.5 kohm 1/5 W J	3029152970	2
R319C/S	Carbon Film 3.3 kohm 1/5 W J	3069332970	2
R319L/R	Carbon Film 3.3 kohm 1/5 W J	3069332970	2
R320C	Carbon Film 20 kohm 1/5 W J	3069203970	1
R320L/R	Carbon Film 33 kohm 1/5 W J	3069333970	2
R321C	Metal Film 1 kohm 1/5 W J	3029102970	1
R321L/R	Metal Film 1.2 kohm 1/5 W J	3029122970	2
R322C/S	Metal Film 1.5 kohm 1/5 W J	3029152970	2
R322L/R	Metal Film 1.5 kohm 1/5 W J	3029152970	2
R323C/S	Carbon Film 2.7 kohm 1/5 W J	3069272970	2
R323L/R	Carbon Film 2.7 kohm 1/5 W J	3069272970	2
R324C/S	Carbon Film 620 ohm 1/5 W J	3069621970	2
R324L/R	Carbon Film 620 ohm 1/5 W J	3069621970	2
R325C/S	Carbon Film 4.7 kohm 1/5 W J	3069472970	2
R325L/R	Carbon Film 4.7 kohm 1/5 W J	3069472970	2
R326C/S	Carbon Film 15 kohm 1/5 W J	3069153970	2
R326L/R	Carbon Film 15 kohm 1/5 W J	3069153970	2
R327C/S	Carbon Film 24 kohm 1/5 W J	3069243970	2
R327L/R	Carbon Film 24 kohm 1/5 W J	3069243970	2
R328L/R	Metal Film 22 ohm 1/5 W J	3029220970	2
R329L/R	Metal Film 22 ohm 1/5 W J	3029220970	2
R330L/R	Metal Film 4.7 ohm 1 W J	3029479470	2
R331	Carbon Film 47 kohm 1/5 W J	3069473970	1
R332	Metal Film 1 kohm 1/5 W J	3029102970	1
R333	Carbon Film 10 kohm 1/5 W J	3069103970	1
R334	Metal Film 1.5 kohm 1/5 W J	3029152970	1
R335	Carbon Film 7.5 ohm 1/5 W J	3069752970	1
R336	Carbon Film 3.3 kohm 1/5 W J	3069332970	1
R337/338	Carbon Film 22 kohm 1/5 W J	3069223970	2
R339	Carbon Film 22 kohm 1/5 W J	3069223970	1
R340	Carbon Film 3.3 kohm 1/5 W J	3069332970	1
R341	Metal Film 3.3 kohm 1/5 W J	3029332970	1
R343	Carbon Film 22 kohm 1/5 W J	3069223970	1
R344	Carbon Film 47 kohm 1/5 W J	3069473970	1
R345L/R	Carbon Film 4.7 kohm 1/5 W J	3069472970	2
R350	Metal Film 4.7 ohm 2 W J	3029479570	1
R351	Metal Film 10 ohm 1 W J	3029100470	1
R352	Metal Film 68 ohm 2 W J	3029680570	1
R353	Metal Film 100 ohm 1/5 W J	3029101970	1
R354	Carbon Film 15 kohm 1/5 W J	3069153970	1
R357	Carbon Film 10 kohm 1/5 W J	3069103970	1
R380C	Metal Film 3.3 ohm 1/5 W J	3029339970	1
R380L/R	Metal Film 3.3 ohm 1/5 W J	3029339970	2
R381C	Metal Film 3.3 ohm 1/5 W J	3029339970	1
R381L/R	Metal Film 3.3 ohm 1/5 W J	3029339970	2
R382	Carbon Film 100 kohm 1/5 W J	3069104970	1
R383	Carbon Film 4.7 kohm 1/5 W J	3069472970	1
R384	Metal Film 10 ohm 1/5 W J	3029100970	1
R385	Metal Film 2.2 kohm 2 W J	3029222570	1
R401	Metal Film 10 kohm 2 W J	3029100570	1
R405	Metal Film 4.7 kohm 1/5 W J	3029472970	1
R407L/R	Metal Film 4.7 kohm 1/5 W J	3029472970	2
R411	Metal Film 10 ohm 1 W J	3029100470	1
R414	Metal Film 4.7 kohm 1/5 W J	3029472970	1
R415L/R	Metal Film 1 kohm 1/5 W J	3029102970	2
R416	Metal Film 100 kohm 1/5 W J	3069104970	1
R420C	Carbon Film 10 kohm 1/5 W J	3069103970	1
R420L/R	Carbon Film 10 kohm 1/5 W J	3069103970	2
R420	Carbon Film 10 kohm 1/5 W J	3069103970	1
	MISCELLANEOUS		
RLY301	HR-CR7, DC12 V	5528042001	1
29	Heatsink, Regulator TR.	7505206120	1
30	Heatsink, Regulator TR.	7505206220	1
31	Heatsink, Regulator TR.	7505210510	1
34	Outlet, AC, 1P	4448103610	1
35	Terminal, Speaker, 8P, Screw Type	4408105810	1
	Wire, HI-W AWG #22, Black, 220 mm, 1P	152622102014	1
⚠	Stand-by Transformer	2828090901	1
	Clip Fuse	4255001010	10
PCB2	**ASSEMBLY P.C.BOARD SURR. SPKR**	**054002009058**	
	CAPACITORS		
C385/386	Electrolytic SG 33 uF 25 V M	3479333041	2
C389	Electrolytic SG 470 uF 10 V M	3479347121	1
C390	Electrolytic SG 33 uF 25 V M	3479333041	1
C391	Electrolytic SG 470 uF 10 V M	3479347121	1
C392	Ceramic Tubular 3.3 pF 50 V K	3519033935	1
C393	Electrolytic SG 470 uF 10 V M	3479347121	1
C394	Ceramic Disc 0.1 uF 50 V Z	3579104530	1
C395	Electrolytic SG 100 uF 35 V M	3479310161	1
C396	Ceramic Tubular 3.3 pF 50 V K	3519033935	1
C411	Ceramic Tubular 0.1 uF 50 V Z	3519104935	1
	CONNECTORS		
CN205	Lead Ass'y, 7P, 320mm	436207323332	1
CN209	Lead Ass'y, 3P, 160mm	436103163331	1
CP210	Wafer, 5P	4428516410	1
	DIODES		
D380/381	1N4148, Switching	2058322101	2
	INTEGRATED CIRCUITS		
IC305/306	GD4066B	2138001101	2
	COILS		
L300R/S	Inductor, 0.47 uH	2648647882	2
	TRANSISTORS		
Q362	BKTA1266Y/KTA1015Y, PNP	2208206105	1
Q363	BKTC3198Y/KTC1815Y, NPN	2208606104	1
Q364	BKTA1266Y/KTA1015Y, PNP	2208206105	1
Q365	BKTC3198Y/KTC1815Y, NPN	2208606104	1
	RESISTORS		
R328C/S	Metal Film 22 ohm 1/5 W J	3029220970	2
R329C/S	Metal Film 22 ohm 1/5 W J	3029220970	2
R330C/S	Metal Film 4.7 ohm 1 W J	3029479470	2
R369-373	Metal Film 75 ohm 1/5 W J	3029750970	5
R374	Carbon Film 1.2 kohm 1/5 W J	3069122970	1
R375	Metal Film 180 ohm 1/5 W J	3029181970	1
R376	Carbon Film 1.2 kohm 1/5 W J	3069122970	1
R377	Metal Film 150 ohm 1/5 W J	3029151970	1
R378	Carbon Film 12 kohm 1/5 W J	3069123970	1
R379	Carbon Film 8.2 kohm 1/5 W J	3069822970	1
R390	Metal Film 10 ohm 1/5 W J	3029100970	1
R391	Metal Film 100 ohm 1 W J	3029101470	1
R392/393	Carbon Film 100 kohm 1/5 W J	3069104970	2
R394	Carbon Film 1.2 kohm 1/5 W J	3069122970	1
R395	Metal Film 180 ohm 1/5 W J	3029181970	1
R396	Carbon Film 1.2 ohm 1/5 W J	3069122970	1
R397	Metal Film 150 ohm 1/5 W J	3029151970	1
R398	Carbon Film 12 kohm 1/5 W J	3069123970	1
R399	Carbon Film 8.2 ohm 1/5 W J	3069822970	1
	MISCELLANEOUS		
39	Terminal, Speaker, 6P, Push Type	4408107410	1
41	Jack, RCA, 4P, GND	4438108120	1
PCB3	**ASSEMBLY P.C.BOARD FRONT**	**054002009063**	
	CAPACITORS		
C201	Cap. Back-up 0.047 F 5.5 V M	3438247315	1
C202	Electrolytic SG 100 uF 16 V M	3479310131	1
C203	Ceramic Disc 0.1 uF 50 V Z	3579104530	1
C204	Electrolytic SG 4.7 uF 50 V M	3479347971	1
C205	Ceramic Tubular 0.022 uF 50 V Z	3519223935	1
C206/207	Ceramic Tubular 0.047 uF 50 V Z	3519473935	2

Ref. No.	Description	Mfr. Part No.	Q'ty
C208C/208	Ceramic Tubular 0.022 uF 50 V Z	3519223935	2
	CONNECTORS		
CN206	Lead Ass'y, 5P, 250mm	436205253332	1
CN207	Lead Ass'y, 13P, 260mm	436213263332	1
CN211	Lead Ass'y, 9P, 160mm	436209163332	1
CN212	Lead Ass'y, 6P, 240mm	436206243332	1
CN213	Lead Ass'y, 9P, 240mm	436209243332	1
	DIODES		
D201-204	1N4148, Switching	2058322101	4
D205	LED, SLR-34URCF25	2371124701	1
D206-219	1N4148, Switching	2058322101	4
	INTEGRATED CIRCUIT		
IC201	UPD78044AGF-152-3B8Y	2138313237	1
	TRANSISTORS		
Q201	DTC114YS	2208622106	1
Q202A	DTC114YS	2208622106	1
Q205C/206	DTC114YS	2208622106	2
Q205S/206	DTC114YS	2208622106	2
Q207C/207	DTA114YS/KRA107M	2238006103	2
Q208	DTA114YS/KRA107M	2238006103	1
	RESISTORS		
R201	Carbon Film 10 kohm 1/5 W J	3069103970	1
R202/203	Carbon Film 100 kohm 1/5 W J	3069104970	2
R204	Carbon Film 22 kohm 1/5 W J	3069223970	1
R205A	Carbon Film 10 kohm 1/5 W J	3069103970	1
R205C/205	Carbon Film 47 kohm 1/5 W J	3069473970	2
R206	Metal Film 470 ohm 1/5 W J	3029471970	1
R207-209	Carbon Film 47 kohm 1/5 W J	3069473970	3
R210/211	Carbon Film 4.7 ohm 1/5 W J	3069472970	2
R212/213	Carbon Film 47 kohm 1/5 W J	3069473970	2
R216-225	Carbon Film 100 kohm 1/5 W J	3069104970	10
R226-231	Carbon Film 4.7 kohm 1/5 W J	3069472970	6
R232	Carbon Film 47 kohm 1/5 W J	3069473970	1
R233C/233	Metal Film 4.7 kohm 1/5 W J	3029472970	2
R235-237	Metal Film 4.7 kohm 1/5 W J	3029472970	3
	MISCELLANEOUS		
RESO201	CST4.19MGW-TF01	3938124006	1
21	Switch, tact	4658003710	31
22	Holder, F/L Guide	6043010210	1
	FL Display, CM1361C	2328002306	1
	Remote Sensor, KRM-34LI	2408000131	1
PCB4	**ASSEMBLY P.C.BOARD SURR./VOLUME**	**054002009065**	
	CAPACITORS		
C501	Mylar 0.047 uF 100 V J	3679473120	1
C502	Mylar 0.1 uF 63 V K	3679104297	1
C503	Poly 560 pF 50 V J	3615681110	1
C504	Mylar 0.047 uF 100 V J	3679473120	1
C505	Electrolytic SG 10 uF 50 V M	3479310071	1
C506L/R	Electrolytic SG 10 uF 50 V M	3479310071	2
C507	Mylar 0.1 uF 63 V K	3679104297	1
C508	Mylar 0.0047 uF 100 V J	3679472120	1
C509	Electrolytic SG 22 uF 50 V M	3479322071	1
C510-513	Electrolytic SG 1 uF 50 V M	3479310971	4
C513	Electrolytic SG 0.22 uF 50 V M	3479322871	1
C514	Electrolytic SG 10 uF 50 V M	3479310071	1
C515	Electrolytic SG 220 uF 16 V M	3479322131	1
C516/517	Electrolytic SG 1 uF 50 V M	3479310971	2
C518	Mylar 0.0056 uF 100 V J	3679562120	1
C519	Electrolytic SG 220 uF 16 V M	3479322131	1
C520	Mylar 0.047 uF 100 V J	3679473120	1
C521	Mylar 0.0047 uF 100 V J	3679472120	1
C522	Electrolytic SG 1 uF 50 V M	3479310971	1
C523	Ceramic Tubular 470 pF 50 V J	3519471935	1
C524	Mylar 0.68 uF 63 V K	3679684297	1
C525-527	Mylar 0.22 uF 63 V K	3679224297	3
C528/529	Electrolytic SG 4.7 uF 50 V M	3479347971	2
C530	Mylar 0.22 uF 63 V K	3679224297	1
C531-534	Mylar 0.1 uF 63 V K	3679104297	4
C535/536	Mylar 0.022 uF 63 V K	3679223297	2
C537	Mylar 0.1 uF 63 V K	3679104297	1
C538	Ceramic Tubular 680 pF 50 V J	3519681935	1
C539	Mylar 0.1 uF 63 V K	3679104297	1
C540	Electrolytic SG 100 uF 10 V M	3479310121	1
C541	Ceramic Disc 0.1 uF 50 V Z	3579104530	1
C542/543	Ceramic Disc 270 pF 50 V J	3579271530	2
C544	Ceramic Tubular 100 pF 50 V J	3519271935	1
C547	Ceramic Disc 470 pF 50 V J	3579471530	1
C548	Mylar 0.0033 uF 100 V J	3679332120	1
C549	Mylar 0.1 uF 63 V K	3679104297	1
C550/551	Mylar 0.047 uF 100 V J	3679473120	2
C552	Electrolytic SG 47 uF 25 V M	3479347041	1
C553	Mylar 0.1 uF 63 V K	3679104297	1
C554	Ceramic Tubular 470 pF 50 [illegible]	3519471935	1
C555/556	Mylar 0.0056 uF 10[illegible]	3679562120	2
C557	Ceramic Tubular 100 pF 5[illegible]	3519101935	1

Ref. No.	Description	Mfr. Part No.	Q'ty
C558C/S	Electrolytic SG 4.7 uF 50 V M	3479347971	2
C559C/S	Ceramic Tubular 100 pF 50 V J	3519101935	2
C560C/S	Ceramic Tubular 680 pF 50 V J	3519681935	2
C561C/S	Electrolytic SG 4.7 uF 50 V M	3479347971	2
C562-565	Electrolytic SG 47 uF 35 V M	3479347061	4
C567L/R	Electrolytic SG 4.7 uF 50 V M	3479347971	2
C568L/R	Electrolytic SG 4.7 uF 50 V M	3479347971	2
C569/570	Electrolytic SG 47 uF 25 V M	3479347041	2
C571C/S	Electrolytic SG 1 uF 50 V M	3479310971	2
C572C	Ceramic Tubular 1000 pF 50 V J	3519102935	1
C572S	Ceramic Tubular 470 pF 50 V J	3519471935	1
C573C/S	Electrolytic SG 1 uF 50 V M	3479310971	2
C574/575	Electrolytic SG 100 uF 10 V M	3479310121	2
C577	Electrolytic SG 47 uF 25 V M	3479347041	1
C578	Mylar 0.0056 uF 100 V J	3679562120	1
C579	Electrolytic SG 100 uF 10 V M	3479310121	1
C580/581	Electrolytic SG 47 uF 25 V M	3479347041	2
C582/583	Ceramic Disc 0.1 uF 50 V Z	3579104530	2
C584	Electrolytic SG 10 uF 35 V M	3479310061	1
C585	Electrolytic SG 47 uF 25 V M	3479347041	1
C590	Ceramic Disc 0.1 uF 50 V Z	3579104530	1
	CONNECTORS		
CP211	Wafer, 9P, Angle	4428525590	1
CP215	Wafer, 15P, Angle	4428525650	1
CX301	Wafer	4428525590	1
	DIODES		
D502	1N4148, Switching	2058322101	1
	INTEGRATED CIRCUITS		
IC501	NJM2177AFB3	2169020000	1
IC502	TC9299P, Echo Vol.	2168007210	1
IC503	NJU9701	2168020114	1
IC504	TA7291S	2168007204	1
IC505	MC14094	2138009115	1
IC506-508	KIA75559P/KIA75559P, OP AMP	2168206104	3
	TRANSISTORS		
Q501	DTC114YS	2208622106	1
Q502	DTA114YS/KRA107M	2238006103	1
Q503	DTC114YS	2208622106	1
Q504	DTA114YS/KRA107M	2238006103	1
	RESISTORS		
R501	Carbon Film 7.5 kohm 1/5 W J	3069752970	1
R502	Carbon Film 47 kohm 1/5 W J	3069473970	1
R503	Carbon Film 15 kohm 1/5 W J	3069153970	1
R504	Carbon Film 1.5 ohm 1/5 W J	3069155970	1
R505L/R	Carbon Film 22 kohm 1/5 W J	3069223970	2
R506/507	Carbon Film 100 kohm 1/5 W J	3069104970	2
R509	Carbon Film 100 kohm 1/5 W J	3069104970	1
R510	Metal Film 100 ohm 1/5 W J	3029101970	1
R511/512	Carbon Film 100 kohm 1/5 W J	3069104970	2
R513	Carbon Film 15 kohm 1/5 W J	3069153970	1
R514/515	Carbon Film 8.2 kohm 1/5 W J	3069822970	2
R516	Carbon Film 330 kohm 1/5 W J	3069334970	1
R517	Carbon Film 7.5 ohm 1/5 W J	3069752970	1
R518	Carbon Film 15 kohm 1/5 W J	3069153970	1
R519	Carbon Film 47 kohm 1/5 W J	3069473970	1
R520/521	Metal Film 47 ohm 1/5 W J	3029470970	2
R522	Carbon Film 1 ohm 1/5 W J	3069105970	1
R523-525	Metal Film 1 kohm 1/5 W J	3029102970	3
R526	Carbon Film 15 kohm 1/5 W J	3069153970	1
R527	Carbon Film 18 kohm 1/5 W J	3069183970	1
R528	Metal Film 22 ohm 1/5 W J	3029220970	1
R529	Carbon Film 15 kohm 1/5 W J	3069153970	1
R530	Metal Film 22 ohm 1/5 W J	3029220970	1
R531	Carbon Film 5.6 kohm 1/5 W J	3069562970	1
R532	Carbon Film 18 kohm 1/5 W J	3069183970	1
R533	Metal Film 4.7 kohm 1/5 W J	3029472970	1
R534	Carbon Film 8.2 kohm 1/5 W J	3069822970	1
R535-537	Metal Film 1 kohm 1/5 W J	3029102970	3
R538C/S	Carbon Film 100 kohm 1/5 W J	3069104970	2
R539C/S	Carbon Film 4.7 kohm 1/5 W J	3069472970	2
R540C/S	Carbon Film 1.8 kohm 1/5 W J	3069182970	2
R541C/S	Carbon Film 100 kohm 1/5 W J	3069104970	2
R542	Metal Film 150 ohm 1/5 W J	3029151970	1
R543	Metal Film 100 ohm 1/5 W J	3029101970	1
R544	Metal Film 150 ohm 1/5 W J	3029151970	1
R545	Metal Film 100 ohm 1/5 W J	3029101970	1
R546L/R	Carbon Film 100 kohm 1/5 W J	3069104970	2
R547L/R	Carbon Film 100 kohm 1/5 W J	3069104970	2
R548/549	Metal Film 100 ohm 1/5 W J	3029101970	2
R550C/S	Carbon Film 47 kohm 1/5 W J	3069473970	2
R551C/S	Carbon Film 6.2 kohm 1/5 W J	3069622970	2
R552C/S	Metal Film 1 kohm 1/5 W J	3029102970	2
R553C/S	Carbon Film 100 kohm 1/5 W J	3069104970	2
R554C/S	Metal Film 2.2 kohm 1/5 W J	3029222970	2
R556	Carbon Film 33 ohm 1/4 W J	3069330270	1
R557	Carbon Film 10 kohm 1/5 W J	3069103970	1
R558	Carbon Film 5.6 kohm 1/5 W J	3069562970	1
R559-561	Metal Film 1 kohm 1/5 W J	3029102970	3

Ref. No.	Description						Mfr. Part No.	Q'ty
R562	Metal Film	470	ohm	1/5 W	J		3029471970	1
R563	Carbon Film	100	kohm	1/5 W	J		3069104970	1
R564	Carbon Film	8.2	kohm	1/5 W	J		3069822970	1
R565/566	Metal Film	100	ohm	1/5 W	J		3029101970	2
R567	Carbon Film	3.3	ohm	1/5 W	J		3069335970	1
R570	Metal Film	1	kohm	1/5 W	J		3029102970	1
	MISCELLANEOUS							
X-TAL501	CSA2.00MG-TF01						3938124001	1
20	Volume, 50 kohm X4, MAIN						3228020110	1
	Wire, HI-WRAP, #24, Black, 180 mm, 1P						152624101858	1
PCB5	**ASSEMBLY P.C.BOARD TONE/BALANCE**						**054002009067**	
	CAPACITORS							
C208L/R	Electrolytic SG	4.7	uF	50 V	M		3479347971	2
C209L/R	Ceramic Tubular	39	pF	50 V	J		3519390935	2
C210L/R	Electrolytic SG	4.7	uF	50 V	M		3479347971	2
C211L/R	Electrolytic SG	10	uF	50 V	M		3479310071	2
C212L/R	Mylar	0.018	uF	63 V	K		3679183297	2
C213L/R	Mylar	0.082	uF	100 V	J		3679823297	2
C214L/R	Mylar	0.0033	uF	100 V	J		3679332120	2
C215L/R	Mylar	0.018	uF	63 V	K		3679183297	2
C216/217	Electrolytic SG	47	uF	25 V	M		3479347041	2
C218L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C219L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C220/221	Ceramic Tubular	0.1	uF	50 V	Z		3519104935	2
	CONNECTORS							
CN203	Lead Ass'y, 10P, 350mm, Shield Wire						435210358832	1
CN214	Lead Ass'y, 3P, 180mm						436203183332	1
CP301	Wafer,						4428850010	1
CN210	Lead Ass'y, 5P, 450mm						436205453332	1
	INTEGRATED CIRCUIT							
IC202	KIA4559S/KIA75559S, OP AMP						2168206103	1
	RESISTORS							
R232L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R233L/R	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R234L/R	Carbon Film	1	ohm	1/5 W	J		3069105970	2
R235L/R	Carbon Film	47	kohm	1/5 W	J		3069473970	2
R236L/R	Carbon Film	22	kohm	1/5 W	J		3069223970	2
R237L/R	Carbon Film	3.9	kohm	1/5 W	J		3069392970	2
R238L/R	Metal Film	2.2	kohm	1/5 W	J		3029222970	2
R239L/R	Metal Film	560	ohm	1/5 W	J		3029561970	2
R242L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R243L/R	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R244L/R	Carbon Film	1.2	kohm	1/5 W	J		3069122970	2
R245/246	Metal Film	47	ohm	1/5 W	J		3029470970	2
R247L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R248/249	Carbon Film	22	kohm	1/5 W	J		3069223970	2
R250	Carbon Film	100	kohm	1/5 W	J		3069104970	1
R251	Carbon Film	10	kohm	1/5 W	J		3069103970	1
R252	Metal Film	75	ohm	1/5 W	J		3029750970	1
	MISCELLANEOUS							
14	Shield Fence, CDS						6165150910	1
15	Shield Fence, TONE						6165150810	1
16	Jack 3P, VIDEO "A"						4438109810	1
17	Switch, Push, VCR2 Sel.						4628054410	1
18	Volume, 100 kohm, BALANCE						3208052010	1
19	Volume, 100 kohmX2, TONE/BASS						3208049510	2
	Wire, HI-WP, #24, Black, 100 mm, 1P						152624101044	1
	Wire, HI-WRAP, #24, Black, 180 mm, 1P						152624101858	1
PCB6	**ASSEMBLY P.C.BOARD TRANS**						**054002009069**	
CN104	Lead Ass'y, 15P, 240mm						436115243701	1
CN105	Lead Ass'y, 4P, 240mm						436104243701	1
R571/572	Metal Film	1	ohm	1/5 W	J		3029109970	2
PCB7	**ASSEMBLY P.C.BOARD POWER SWITCH**						**05400209071**	
CN101	Lead Ass'y, 2P, 350mm						435402353559	1
C403	Ceramic Disc	0.0047	uF	400 V	Z		3549472107	1
27	Switch, Power						4628056110	1
	Clip Fuse						4255001010	2
PCB8	**ASSEMBLY P.C.BOARD INPUT**						**054002009074**	
	CAPACITORS							
C100	Ceramic Tubular	0.047	uF	50 V	Z		3519473935	1
C101L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C102L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C103L/R	Electrolytic SG	1	uF	50 V	M		3479310971	2
C104L/R	Electrolytic SG	33	uF	25 V	M		3479333041	2
C105L/R	Ceramic Tubular	2200	pF	10 V	K		3519222915	2
C106L/R	Mylar	0.0018	uF	100 V	J		3679182120	2
C107L/R	Mylar	0.0056	uF	100 V	J		3679562120	2
C108L/R	Electrolytic SG	1	uF	50 V	M		3479310971	2
C109L/R	Mylar	0.0018	uF	100 V	J		3679182120	2
C110L/R	Electrolytic SG	47	uF	25 V	M		3479347041	2

Ref. No.	Description						Mfr. Part No.	Q'ty
C111L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C112L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C113L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C114L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C115L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C116L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C117L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C118L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C119L/R	Electrolytic SG	4.7	uF	50 V	M		3479347971	2
C120L/R	Electrolytic SG	47	uF	25 V	M		3479347041	2
C121L/R	Electrolytic SG	4.7	uF	50 V	M		3479347971	2
C122L/R	Electrolytic SG	47	uF	25 V	M		3479347041	2
C123	Electrolytic SG	1	uF	50 V	M		3479310971	1
C124L/R	Electrolytic SG	47	uF	25 V	M		3479347041	2
C125L/R	Electrolytic SG	10	uF	50 V	M		3479310071	2
C126L/R	Electrolytic SG	10	uF	35 V	M		3479310061	2
C127L/R	Electrolytic SG	47	uF	25 V	M		3479347041	2
C128L/R	Electrolytic SG	10	uF	35 V	M		3479310061	2
C132L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C133L/R	Ceramic Tubular	100	pF	50 V	J		3519101935	2
C134/135	Ceramic Tubular	0.1	uF	50 V	Z		3519104935	2
	CONNECTORS							
CN215	Lead Ass'y, 15P, 160mm						436215163332	1
CN216	Lead Ass'y, 10P, 280mm						436210283332	1
CP217	Wafer, 5P						4428516410	1
CN220	Lead Ass'y, 2P, 140mm						436402143231	1
CP212	Wafer, 6P						4428516510	1
	DIODE							
D101	1N4148, Switching						2058322101	1
	INTEGRATED CIRCUITS							
IC101/102	LC7821A, B						2168017132	2
IC103	KIA75559P/KIA75559P, OP AMP						2168206104	1
IC104	LC4966						2138017108	1
IC105/106	KIA75559P/KIA75559P, OP AMP						2168206104	2
	COILS							
L101L/R	Inductor, 47 uH						2648647082	2
	TRANSISTORS							
Q101/102	BKTC3198Y/KTC1815Y, NPN						2208606104	2
Q103	DTA114YS/KRA107M						2238006103	1
Q104	DTC114YS						2208622106	1
Q105	DTA114YS/KRA107M						2238006103	1
Q106	DTC114YS						2208622106	1
Q107L/R	2SD1302, NPN						2208606112	2
Q108	2SD1302, NPN						2208606112	1
Q109	BKTA1266Y/KTA1015Y, PNP						2208206105	1
Q110L/R	2SD1302, NPN						2208606112	2
	RESISTORS							
R101L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R102L/R	Carbon Film	91	kohm	1/5 W	J		3069913970	2
R103L/R	Carbon Film	91	kohm	1/5 W	J		3069913970	2
R104L/R	Metal Film	820	ohm	1/5 W	J		3029821970	2
R105L/R	Carbon Film	560	kohm	1/5 W	J		3069564970	2
R106L/R	Carbon Film	43	kohm	1/5 W	J		3069433970	2
R107L/R	Metal Film	470	ohm	1/5 W	J		3029471970	2
R108L/R	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R109L/R	Metal Film	47	ohm	1/5 W	J		3029470970	2
R110L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R111L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R112L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R113L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R114L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R115L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R116L/R	Carbon Film	47	kohm	1/5 W	J		3069473970	2
R117L/R	Metal Film	470	ohm	1/5 W	J		3029471970	2
R118L/R	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R119L/R	Metal Film	470	ohm	1/5 W	J		3029471970	2
R120	Carbon Film	100	kohm	1/5 W	J		3069104970	1
R121L/R	Metal Film	470	ohm	1/5 W	J		3029471970	2
R122-125	Metal Film	1	kohm	1/5 W	J		3029102970	4
R126L/R	Carbon Film	220	kohm	1/5 W	J		3069224970	2
R127L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R128L/R	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R129L/R	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R130L/R	Metal Film	100	ohm	1/5 W	J		3029101970	2
R131/132	Carbon Film	150	kohm	1/5 W	J		3069154970	2
R135L/R	Metal Film	3.3	kohm	1/5 W	J		3029332970	2
R136L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R138L/R	Metal Film	3.3	kohm	1/5 W	J		3029332970	2
R139	Carbon Film	10	kohm	1/5 W	J		3069103970	1
	MISCELLANEOUS							
42	Jack, RCA, 4P, GND						4438108110	2
43	Jack, RCA, 6P, GND						4438108010	1

Ref. No.	Description						Mfr. Part No.	Q'ty
PCB9	**ASSEMBLY P.C.BOARD TUNER**						**054002009076**	
	CAPACITORS							
C901	Ceramic Tubular	0.01	uF	50 V	Z		3519103935	1
C902	Electrolytic SG	100	uF	16 V	M		3479310131	1
C904	Electrolytic SG	0.22	uF	50 V	M		3479322871	1
C905	Ceramic Tubular	0.047	uF	50 V	Z		3519473935	1
C906	Poly	390	pF	50 V	J		3615391110	1
C907	Ceramic Disc	0.022	uF	25 V	Z		3519223520	1
C908	Electrolytic SG	10	uF	50 V	M		3479310071	1
C909	Ceramic Tubular	1000	pF	50 V	J		3519102935	1
C910/911	Ceramic Disc	0.022	uF	25 V	Z		3519223520	2
C912	Electrolytic SG	47	uF	10 V	M		3479347021	1
C913	Ceramic Tubular	0.022	uF	50 V	Z		3519223935	1
C914	Ceramic Tubular	47	pF	50 V	J		3519470935	1
C915/916	Ceramic Tubular	0.022	uF	50 V	Z		3519223935	2
C917	Electrolytic SG	1	uF	50 V	M		3479310971	1
C920	Electrolytic SG	47	uF	25 V	M		3479347041	1
C921	Electrolytic SG	2.2	uF	50 V	M		3479322971	1
C922	Electrolytic SG	3.3	uF	50 V	M		3479333971	1
C923	Electrolytic SG	2.2	uF	50 V	M		3479322971	1
C924	Ceramic Disc	0.022	uF	25 V	Z		3519223520	1
C925	Ceramic Tubular	330	pF	50 V	J		3519331935	1
C926	Mylar	0.068	uF	100 V	J		3679683120	1
C927	Ceramic Tubular	330	pF	50 V	J		3519331935	1
C931	Electrolytic SG	4.7	uF	50 V	M		3479347971	1
C932	Electrolytic SG	100	uF	16 V	M		3479310131	1
C934	Electrolytic SG	0.47	uF	50 V	M		3479347871	1
C935	Electrolytic SG	3.3	uF	50 V	M		3479333971	1
C936	Electrolytic SG	1	uF	50 V	M		3479310971	1
C937	Mylar	0.047	uF	100 V	J		3679473120	1
C938	Ceramic Tubular	680	pF	50 V	J		3519681935	1
C939	Electrolytic SG	10	uF	50 V	M		3479310071	1
C940L/R	Ceramic Tubular	470	pF	50 V	J		3519471935	2
C941L/R	Electrolytic SG	10	uF	50 V	M		3479310071	2
C942L/R	Ceramic Tubular	27	pF	50 V	J		3519270935	2
C943	Ceramic Tubular	0.01	uF	50 V	Z		3519103935	1
C944	Electrolytic SG	10	uF	50 V	M		3479310071	1
C945	Electrolytic SG	1	uF	50 V	M		3479310971	1
C946	Ceramic Tubular	0.01	uF	50 V	Z		3519103935	1
C947	Electrolytic SG	10	uF	50 V	M		3479310071	1
C948	Ceramic Tubular	0.01	uF	50 V	Z		3519103935	1
C949/950	Ceramic Disc CH	33	pF	50 V	J		3528330210	2
C957	Ceramic Tubular	0.022	uF	50 V	Z		3519223935	1
C960	Electrolytic SG	4.7	uF	50 V	M		3479347971	1
C962	Ceramic Tubular	0.022	uF	50 V	Z		3519223935	1
C966L/R	Mylar	0.012	uF	100 V	J		3679123120	2
C967	Ceramic Tubular	0.047	uF	50 V	Z		3519473935	1
C968	Ceramic Tubular	0.022	uF	50 V	Z		3519223935	1
C969	Ceramic Tubular	100	pF	50 V	J		3519101935	1
	FILTER							
CF1/2	10.7MA8						3978011001	2
CF3	BFU450C4N						3908001020	1
CF4	SFZ450F						3908001380	1
	CONNECTORS							
CP213	Wafer, 9P						4428516810	1
CP214	Wafer, 3P						4428516210	1
CP216	Wafer, 10P						4428516910	1
	DIODES							
D901/902	1N4148, Switching						2058322101	2
D904	Zener, UZ 4.3BSB						2258599102	1
D905	1N4148, Switching						2058322101	1
D906	Zener, UZ 5.6BSB						2258599104	1
	INTEGRATED CIRCUITS							
IC901	TC9216P						2168007205	1
IC902	LA1266						2168017128	1
IC903	LA3410						2168417117	1
	COILS							
L901	AM-ANT						2608201120	1
L902	AM-OSC						2638201150	1
L903	FM-DET-A						2838501110	1
L904	FM-DET-B						2838501210	1
L905	AM-IFT						2848001250	1
L906L/R	MPX, Filter						2658001050	2
L907/908	Inductor, 56 uH						2648656083	2
	TRANSISTORS							
Q901	KTC1923Y/KTC3194Y, NPN						2208406103	1
Q902	KTC2240BL/BKTC3200, NPN						2208606108	1
Q903	2SK168DTZ, FET						2218211100	1
Q904	KTC1923Y/KTC3194Y, NPN						2208406103	1
Q905-907	DTA114YS/KRA107M						2238006103	3
Q908L/R	2SD1302, NPN						2208606112	2
Q909	DTA114YS/KRA107M						2238006103	1
Q910/911	DTC114TS						2208622108	2
Q912	DTA114YS/KRA107M						2238006103	1
Q913	BKTC3198Y/KTC1815Y, NPN						2208606104	1
Q914/915	DTC114TS						2208622108	2

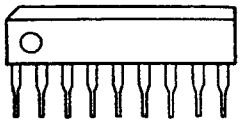
Ref. No.	Description						Mfr. Part No.	Q'ty
	RESISTORS							
R903	Metal Film	1	kohm	1/5 W	J		3029102970	1
R904	Metal Film	150	ohm	1/5 W	J		3029151970	1
R905	Metal Film	470	ohm	1/5 W	J		3029471970	1
R906	Metal Film	330	ohm	1/5 W	J		3029331970	1
R907	Carbon Film	27	kohm	1/5 W	J		3069273970	1
R908/909	Metal Film	330	ohm	1/5 W	J		3029331970	2
R910/911	Metal Film	56	ohm	1/5 W	J		3029560970	2
R912	Carbon Film	3.3	kohm	1/5 W	J		3069332970	1
R913	Carbon Film	10	kohm	1/5 W	J		3069103970	1
R914	Carbon Film	27	kohm	1/5 W	J		3069273970	1
R915/916	Carbon Film	100	kohm	1/5 W	J		3069104970	2
R917	Carbon Film	68	kohm	1/5 W	J		3069683970	1
R918	Carbon Film	5.6	kohm	1/5 W	J		3069562970	1
R919	Carbon Film	10	kohm	1/5 W	J		3069103970	1
R920	Carbon Film	24	kohm	1/5 W	J		3069243970	1
R921	Carbon Film	4.7	kohm	1/5 W	J		3069472970	1
R923	Carbon Film	27	kohm	1/5 W	J		3069273970	1
R924	Metal Film	82	ohm	1/5 W	J		3029820970	1
R925	Metal Film	1	kohm	1/5 W	J		3029102970	1
R926	Carbon Film	100	kohm	1/5 W	J		3069104970	1
R927/928	Carbon Film	240	ohm	1/5 W	J		3069241970	2
R929	Carbon Film	47	kohm	1/5 W	J		3069473970	1
R930	Metal Film	1	kohm	1/5 W	J		3029102970	1
R931L/R	Carbon Film	150	kohm	1/5 W	J		3069154970	2
R933L/R	Carbon Film	2.2	kohm	1/5 W	J		3069222970	2
R934L/R	Carbon Film	3.3	kohm	1/5 W	J		3069332970	2
R935L/R	Carbon Film	3.3	kohm	1/5 W	J		3069332970	2
R936	Carbon Film	10	kohm	1/5 W	J		3069103970	1
R937	Carbon Film	1.5	kohm	1/5 W	J		3069152970	1
R938	Metal Film	100	ohm	1/5 W	J		3029101970	1
R939	Metal Film	820	ohm	1/5 W	J		3029821970	1
R940	Carbon Film	240	ohm	1/5 W	J		3069241970	1
R941	Metal Film	2.7	kohm	1/5 W	J		3029272970	1
R942	Metal Film	470	ohm	1/5 W	J		3029471970	1
R943	Metal Film	4.7	kohm	1/5 W	J		3029472970	1
R945/946	Carbon Film	240	ohm	1/5 W	J		3069241970	2
R947/948	Metal Film	22	ohm	1/5 W	J		3029220970	2
R949/950	Carbon Film	6.2	kohm	1/5 W	J		3069622970	2
R951/952	Carbon Film	10	kohm	1/5 W	J		3069103970	2
R953L/R	Metal Film	1	kohm	1/5 W	J		3029102970	2
R954	Metal Film	1	kohm	1/5 W	J		3029102970	1
R955/956	Metal Film	680	ohm	1/5 W	J		3029681970	2
R957	Metal Film	10	ohm	1/5 W	J		3029100970	1
R963	Carbon Film	15	kohm	1/5 W	J		3069153970	1
	RESONATORS							
RESO901	CSB456F11						3938001009	1
RESO902	4.00MGW						3938131570	1
	TRIMMERS							
TC901	TZ03-R200FR 169						3838001010	1
TC902	TZ03-R110FR 169						3838001000	1
	VARACTORS							
VD901	Varactor, KV1236Z						2058819106	1
	SEMI FIXED RESISTORS							
VR901	20 K						3248020343	1
VR902	50 K						3248050343	1
VR903	200 K						3248020443	1
	MISCELLANEOUS							
X-TAL1	7.2MHZ						3978101031	1
FE901	FE407-G60, FM Front-end						3928801890	1
44	Terminal, Antenna, Screw Type						4408108210	1
PCB10	**ASSEMBLY P.C.BOARD SPKR SEL./H/P**						**054002009078**	
C601L/R	Ceramic Tubular	560	pF	50 V	J		3519561935	2
C602	Ceramic Disc	0.1	uF	50 V	Z		3579104530	1
R601L/R	Metal Film	470	ohm	2 W	J		3029471570	2
R602L/R	Carbon Film	15	kohm	1/5 W	J		3069153970	2
CP201	Wafer, 12P						4428540030	1
23	Jack, PHONE						4438005010	1
24	Bracket, Speaker						6165149810	1
25	Switch, Push, 2/2						4628043810	1
26	Switch, Push, 4/2						4628049210	1
PCB11	**ASSEMBLY P.C.BOARD PRE IN/OUT**						**054002009060**	
	CAPACITORS							
C369L/R	Electrolytic SG	1	uF	50 V	M		3479310971	2
C376C/S	Electrolytic SG	1	uF	50 V	M		3479310971	2
C377C/S	Ceramic Tubular	1000	pF	50 V	J		3519102935	2
C378	Electrolytic SG	22	uF	16 V	M		3479322031	1
C378C/S	Electrolytic SG	1	uF	50 V	M		3479310971	2
C379	Electrolytic SG	47	uF	25 V	M		3479347041	1
C381/382	Electrolytic SG	47	uF	25 V	M		3479347041	2
C383	Ceramic Tubular	270	pF	50 V	J		3519271935	1
C384	Ceramic Disc	0.1	uF	50 V	Z		3579104530	1
C403	Electrolytic SG	1	uF	50 V	M		3479310971	1

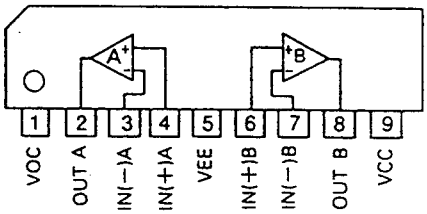
Ref. No.	Description					Mfr. Part No.	Q'ty
C404/405	Electrolytic SG	47	uF	25 V	M	3479347041	2
C407-409	Ceramic Tubular	100	pF	50 V	J	3519101935	3
C410	Ceramic Tubular	0.1	uF	50 V	Z	3519104935	1
	CONNECTORS						
CN202	Lead Ass'y, 8P, 340mm					435208348832	1
CN204	Lead Ass'y, 6P, 350mm					436206353332	1
	DIODES						
D377-379	1N4148, Switching					2058322101	3
	INTEGRATED CIRCUITS						
IC304/307	KIA75559P/KIA75559P, OP AMP					2168206104	2
	TRANSISTORS						
Q360C/S	BKTC3198Y/KTC1815Y, NPN					2208606104	2
Q361	DTA114YS/KRA107M					2238006103	1
Q406	2SD1302, NPN					2208606112	1
	RESISTORS						
R359C/S	Carbon Film	100	kohm	1/5 W	J	3069104970	2
R360C/S	Carbon Film	12	kohm	1/5 W	J	3069123970	2
R361C/S	Carbon Film	2	kohm	1/5 W	J	3069202970	2
R362C/S	Carbon Film	100	kohm	1/5 W	J	3069104970	2
R363C/S	Metal Film	470	ohm	1/5 W	J	3029471970	2
R364C/S	Carbon Film	3.3	kohm	1/5 W	J	3069332970	2
R365/366	Metal Film	470	ohm	1/5 W	J	3029471970	2
R367	Carbon Film	220	kohm	1/5 W	J	3069224970	1
R368	Carbon Film	22	kohm	1/5 W	J	3069223970	1
R380	Carbon Film	2.2	kohm	1/5 W	J	3069222970	1
R405L/R	Carbon Film	100	kohm	1/5 W	J	3069104970	2
R406L/R	Metal Film	1	kohm	1/5 W	J	3029102970	2
R408	Metal Film	4.7	kohm	1/5 W	J	3029472970	1
R409	Carbon Film	100	kohm	1/5 W	J	3069104970	1
R410	Metal Film	470	ohm	1/5 W	J	3029471970	1
R412	Metal Film	470	ohm	1/5 W	J	3029471970	1
R421	Metal Film	100	ohm	1/5 W	J	3029101970	1
	MISCELLANEOUS						
37	Jack, RCA, 6P					4438103210	1
38	Jack, RCA, 4P					4438108140	1
PCB12	**ASSEMBLY P.C.BOARD TAPE2**					**054002009080**	
	CAPACITORS						
C129L/R	Ceramic Tubular	100	pF	50 V	J	3519101935	2
C130L/R	Ceramic Tubular	100	pF	50 V	J	3519101935	2
C131L/R	Ceramic Tubular	100	pF	50 V	J	3519101935	2
C136	Ceramic Tubular	0.1	uF	50 V	Z	3519104935	1
CN217	Lead Ass'y, 5P, 200mm					436205203132	1
R133L/R	Metal Film	1	kohm	1/5 W	J	3029102970	2
R134L/R	Metal Film	1	kohm	1/5 W	J	3029102970	2
42	Jack, RCA, 4P, GND					4438108110	1
PCB13	**ASSEMBLY P.C.BOARD SURR. AMP**					**054002009082**	
	CAPACITORS						
C300S	Electrolytic SG	4.7	uF	50 V	M	3479347971	1
C301S	Ceramic Tubular	220	pF	50 V	J	3519221935	1
C304S	Ceramic Disc	18	pF	50 V	J	3579180130	1
C305S	Ceramic Disc	18	pF	50 V	J	3579180130	1
C306S	Ceramic Disc	47	pF	50 V	K	3579470130	1
C307S	Ceramic Disc	330	pF	50 V	J	3579331130	1
C308S	Electrolytic SG	47	uF	16 V	M	3479347031	1
C310S	Ceramic Disc	150	pF	50 V	J	3579151130	1
C311S	Ceramic Disc	220	pF	50 V	J	3579221130	1
C312S	Mylar	0.047	uF	100 V	J	3679473120	1
C318S	Ceramic Tubular	10	pF	50 V	J	3519100935	1
C420S	Ceramic Tubular	1000	pF	50 V	J	3519102935	1
	CONNECTORS						
CN218	Lead Ass'y, 10P, 220mm					436110223701	1
CN219	Lead Ass'y, 3P, 220mm					436103223701	1
	DIODES						
D300S	Zener, UZ 27.0BSC					2258599115	1
D301S	1N4148, Switching					2058322101	1
D302S	1N4148, Switching					2058322101	1
	TRANSISTORS						
Q300S	KTC2240BL/BKTC3200, NPN					2208606108	1
Q301S	KTC2240BL/BKTC3200, NPN					2208606108	1
Q302S	KTC2240BL/BKTC3200, NPN					2208606108	1
Q303S	BKTC3198Y/KTC1815Y, NPN					2208606104	1
Q304S	BKTC3198Y/KTC1815Y, NPN					2208606104	1
Q305S	KTA1024Y, PNP					2208206115	1
Q306S	KTC3206Y, NPN					2208606118	1
Q307S	KSC2690Y, NPN					2008602102	1
Q308S	KSA1220AY					2008202101	1

Ref. No.	Description					Mfr. Part No.	Q'ty
	RESISTORS						
R300S	Carbon Film	47	kohm	1/5 W	J	3069473970	1
R301S	Metal Film	33	ohm	1/5 W	J	3029330970	1
R302S	Metal Film	33	ohm	1/5 W	J	3029330970	1
R303S	Carbon Film	62	kohm	1/5 W	J	3069623970	1
R304S	Carbon Film	2.2	kohm	1/5 W	J	3069222970	1
R305S	Carbon Film	1.2	kohm	1/5 W	J	3069122970	1
R306S	Carbon Film	1.2	kohm	1/5 W	J	3069122970	1
R307S	Metal Film	330	ohm	1/5 W	J	3029331970	1
R308S	Metal Film	33	ohm	1/5 W	J	3029330970	1
R309S	Metal Film	33	ohm	1/5 W	J	3029330970	1
R310S	Carbon Film	12	kohm	1/5 W	J	3069123970	1
R311S	Metal Film	1	kohm	1/5 W	J	3029102970	1
R312S	Metal Film	1	kohm	1/5 W	J	3029102970	1
R313S	Metal Film	100	ohm	1/5 W	J	3029101970	1
R314S	Metal Film	100	ohm	1/5 W	J	3029101970	1
R315S	Metal Film	220	ohm	1/5 W	J	3029221970	1
R317S	Metal Film	1	kohm	1/5 W	J	3029102970	1
R318S	Metal Film	1.5	kohm	1/5 W	J	3029152970	1
R320S	Carbon Film	20	kohm	1/5 W	J	3069203970	1
R321S	Metal Film	1	kohm	1/5 W	J	3029102970	1
R420S	Carbon Film	10	kohm	1/5 W	J	3069103970	1

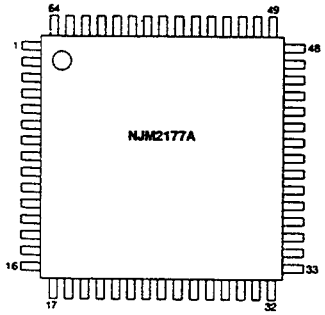
SEMICONDUCTOR LEAD IDENTIFICATION & INTERNAL DIAGRAM

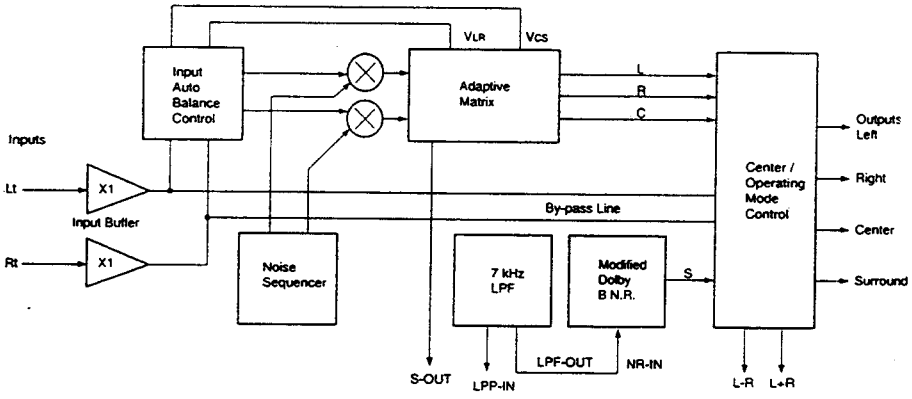
KIA4559S : IC202
(KIA75559S)



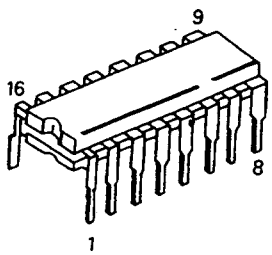


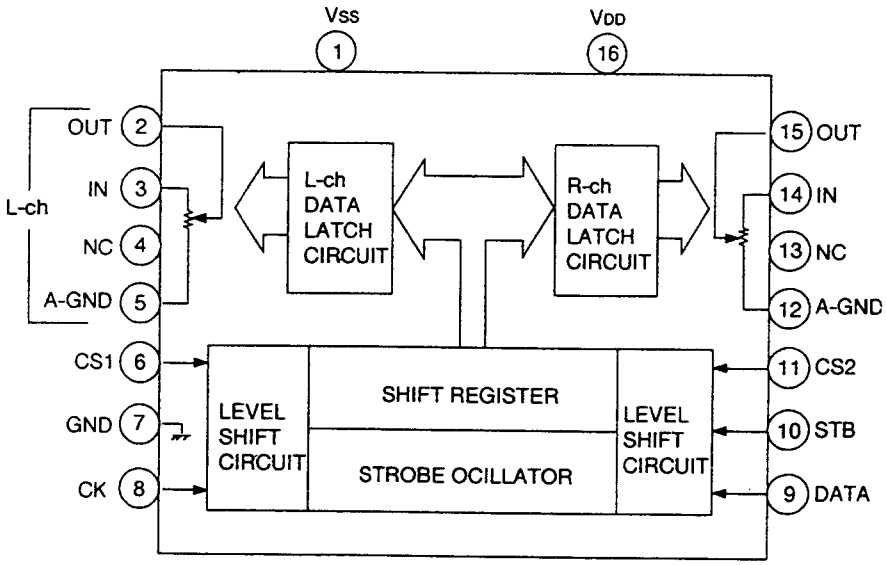
NJM2177A : IC501



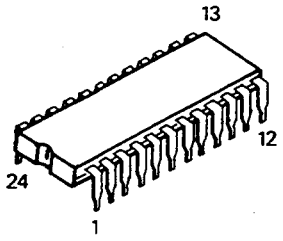


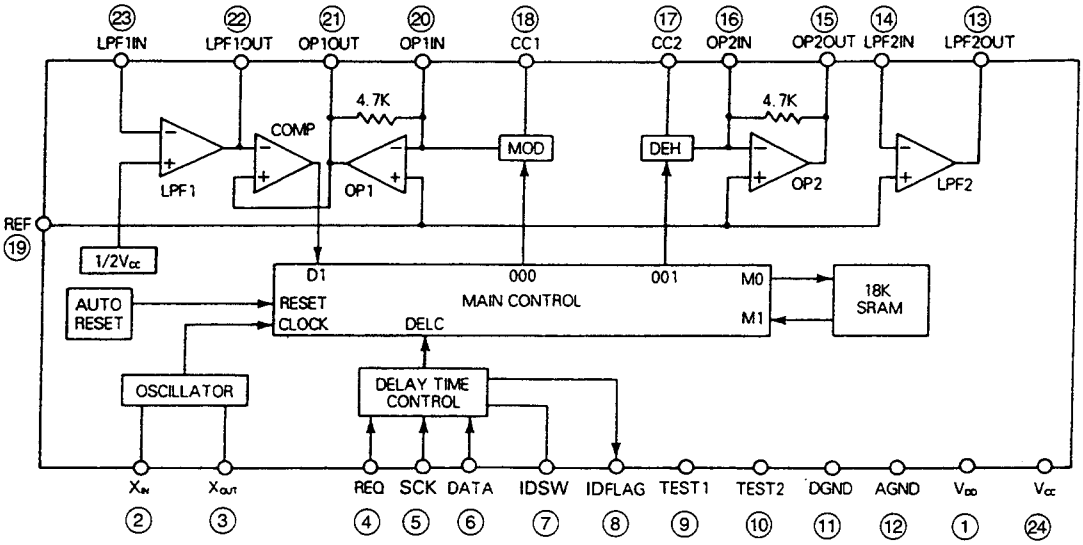
TC9299 : IC502



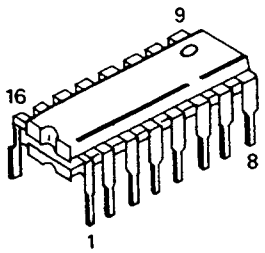


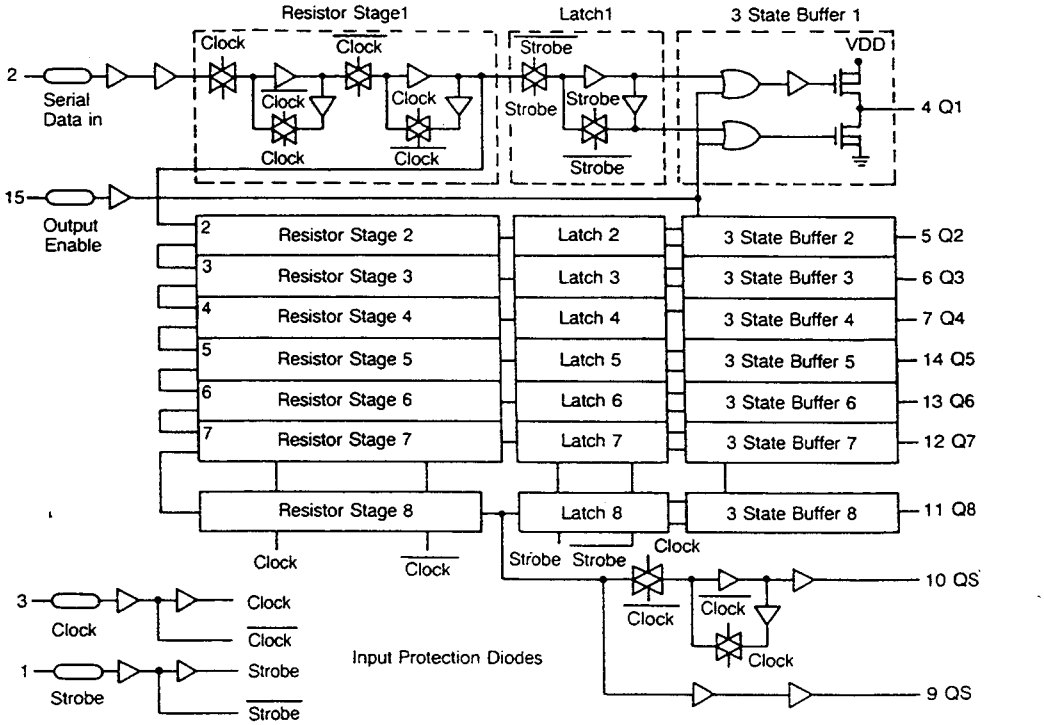
NJU9701 : IC503



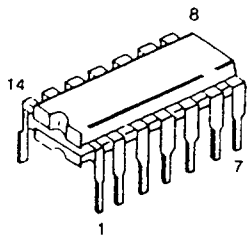


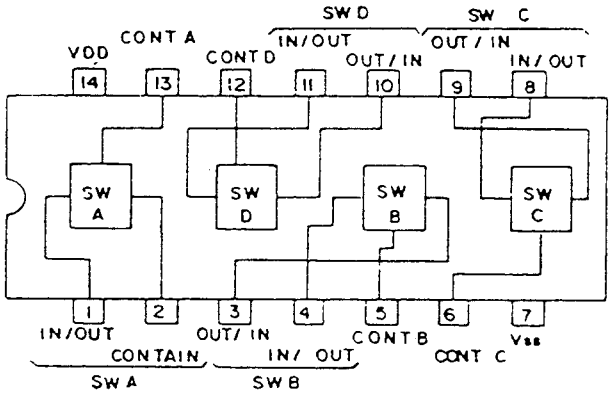
MC14094 : IC505



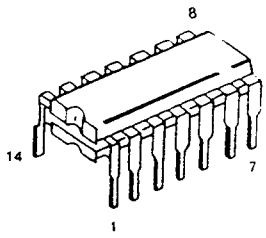


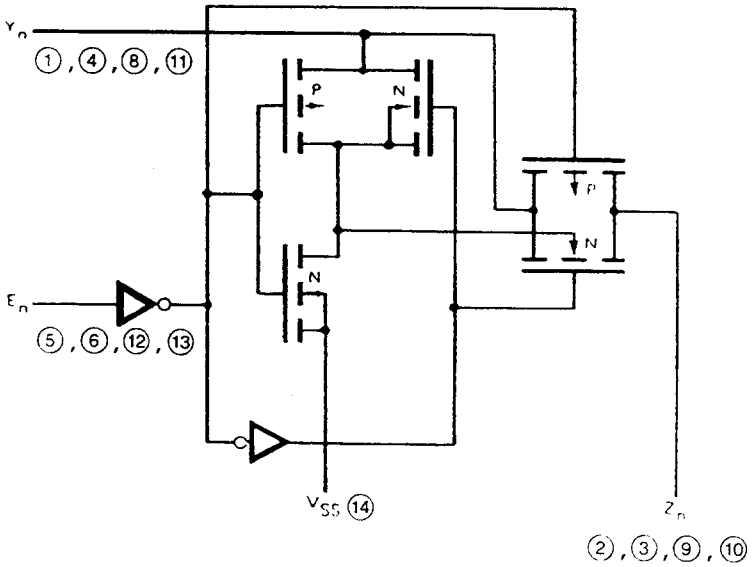
LC4966B : IC104



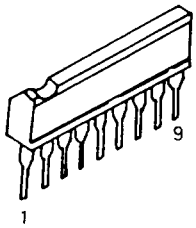


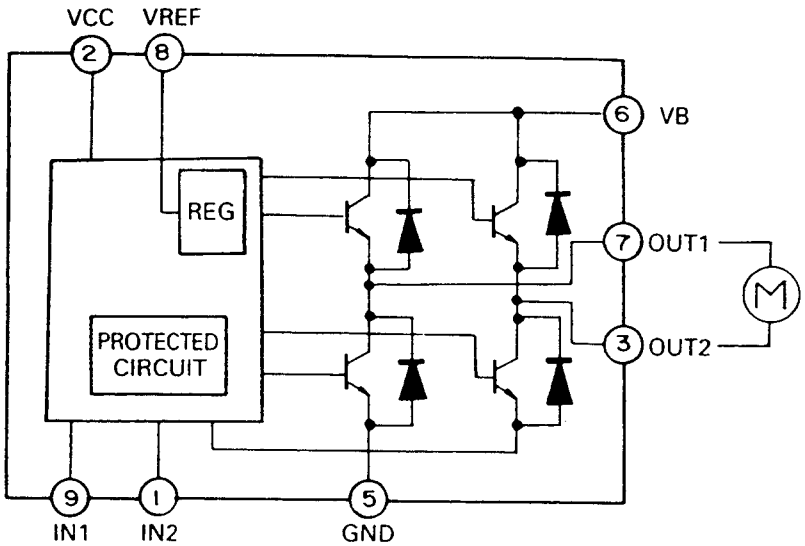
GD4066 : IC305, IC306



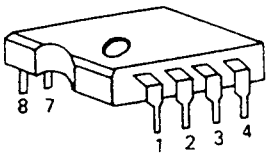


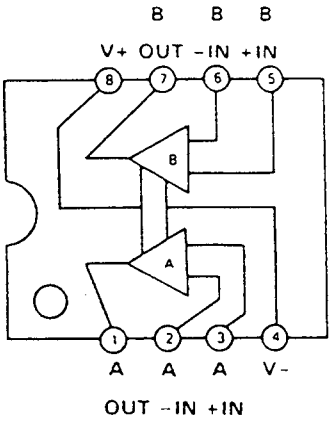
TA7291S : IC504



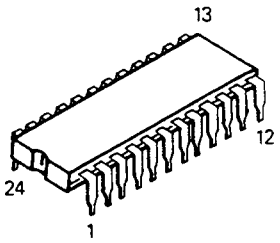


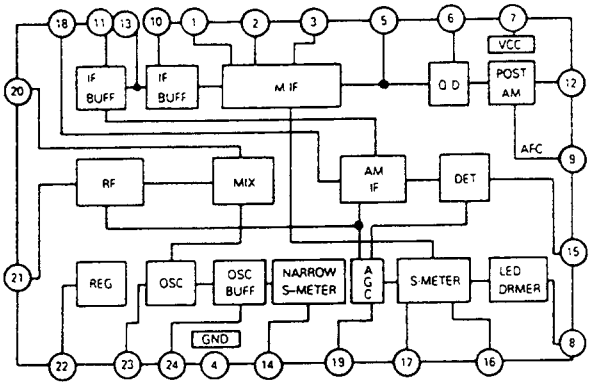
KIA75559P : IC103, 105, 106, 304, 307, 506, 507, 508
(KIA 4559P)



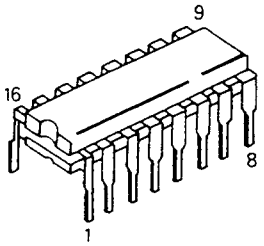


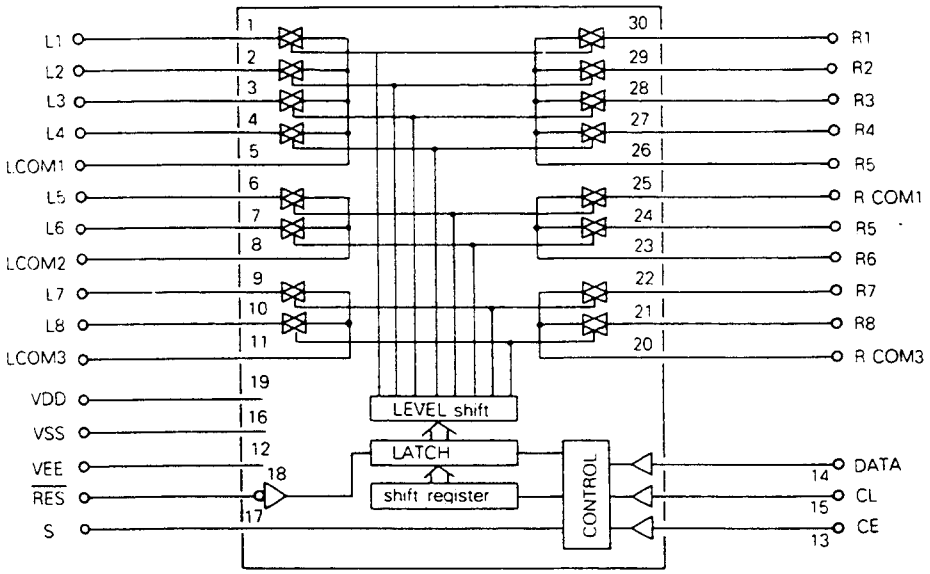
LA1266 : IC902



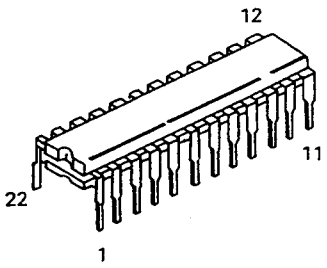


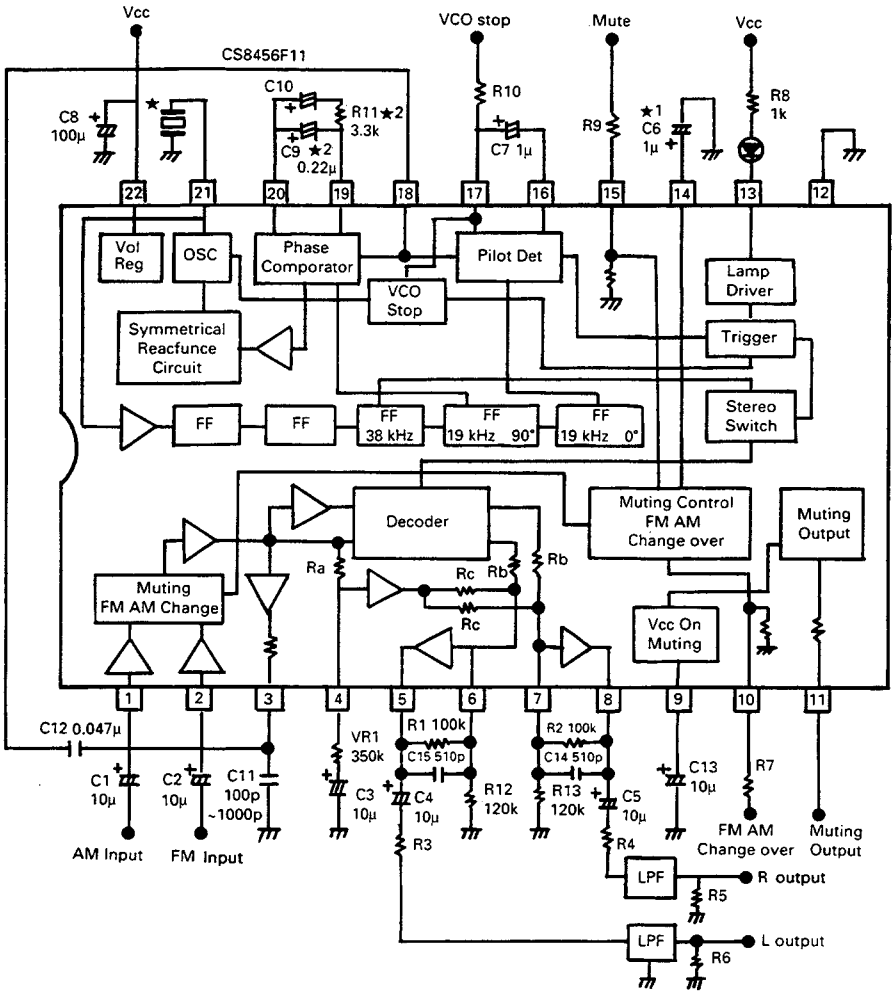
LC7821 : IC101, IC102



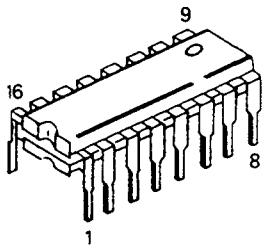


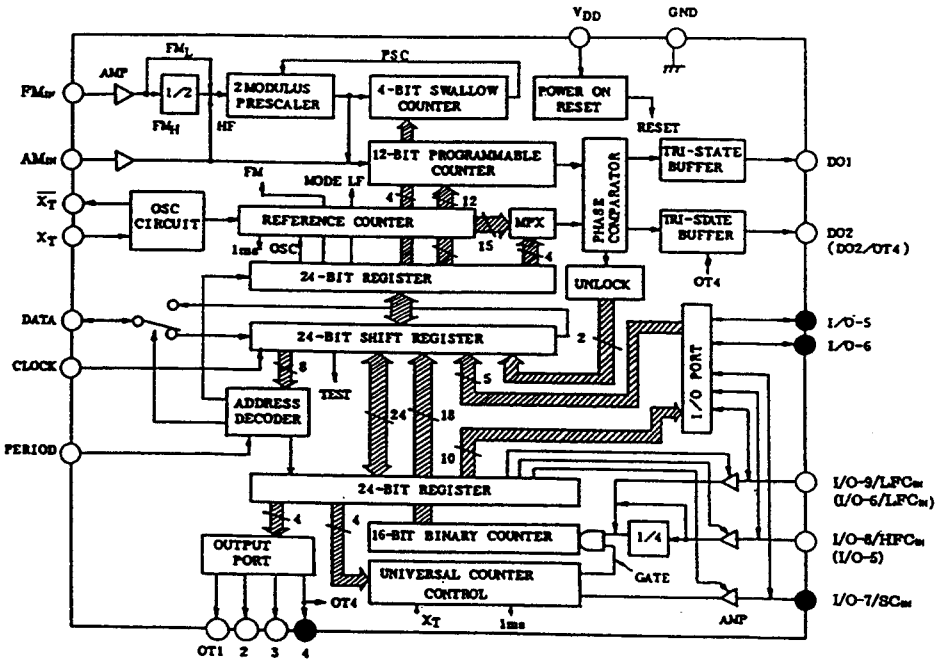
LA3401 : IC703



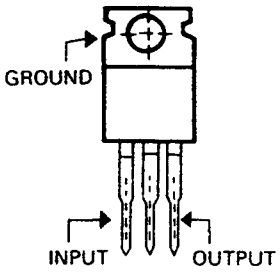


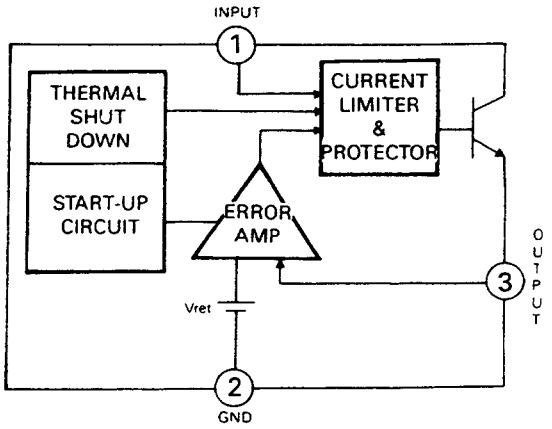
TC9216P : IC901



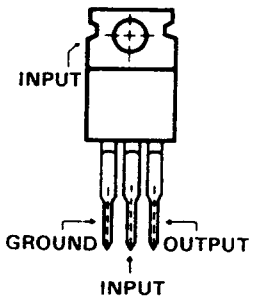


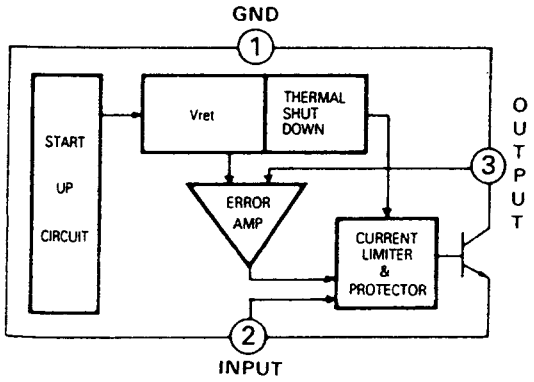
GD78XX : IC301, IC303



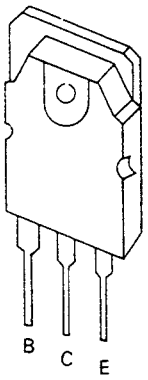


GD7915 : IC302

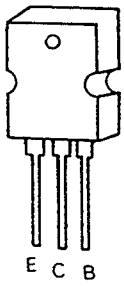




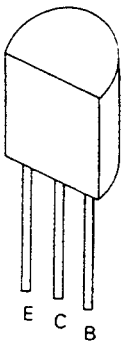
Transistors



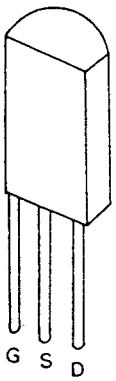
2SC3854 (2SC3181/2SC3182)
2SA1490 (2SA1264/2SA1265)



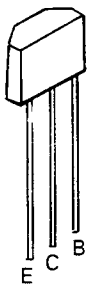
2SC4137
2SC2690Y
2SA1220AY



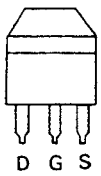
KTD1302S
KTC3200BL
KTA1266Y
KTC3198Y
KTC3194Y
KTA1024Y
KTC3206Y



2SK168D

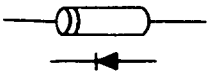


DTC114Y
DTA107M
DTC114T

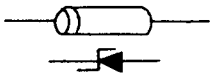


KTC3194

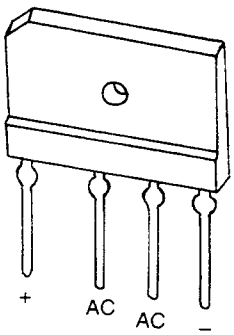
Diodes



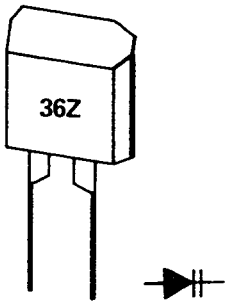
1N4148
1N4003



ZD 5.1V-B
ZD 27V-B
ZD 6.2V-B
ZD 4.3V-B



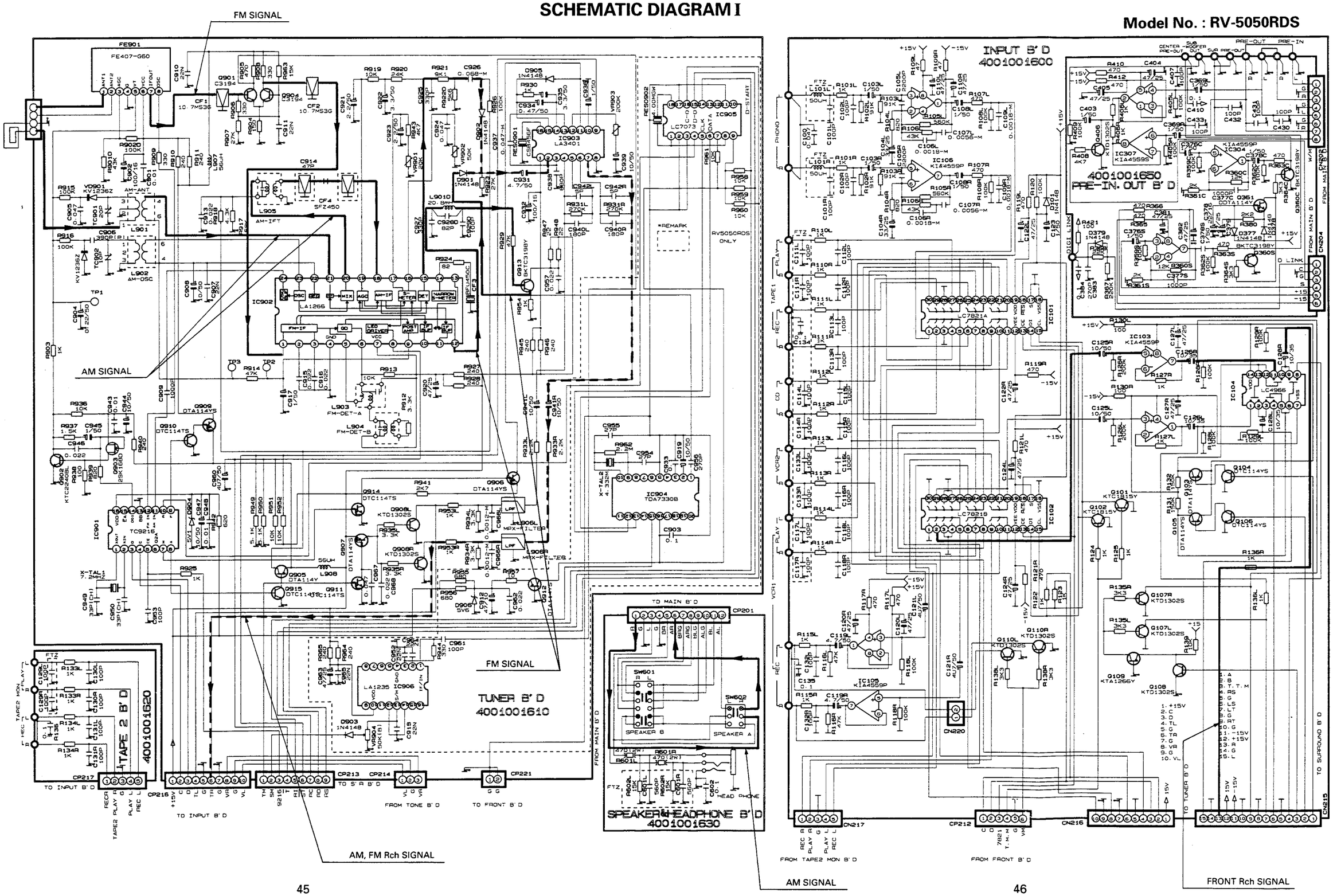
D5SBA60



KV1236Z : VD901

SCHEMATIC DIAGRAM I

Model No. : RV-5050RDS



SCHEMATIC DIAGRAM II

SURROUND SIGNAL

FROM MAIN B' D

ST/BY

SURROUND B' D
4001002920

(OPTION) VCD

VCR1 IN

OUT

VCR2

MON1

CENTER SPKR

SURR SPKR (REAR)

SURROUD SIGNAL

CENTER SIGNAL

SURROUND SPK & VIDEO B' D
4001002910

47

MAIN B' D
4001002900

FRONT Rch SIGNAL

TO PRE-IN. OUT B' D

TO TONE B' D

TO FRONT B' D

TO SPEAKER B' D

TO VIDEO B' D

TO SURROUND B' D

TO SURROUND SPK B' D

TO SPKR A

TO SPKR B

TRANS POSISTOR

45V(+54.8V)

-45V(-54.8V)

TO TRANS B' D

TO POWER SW B' D

TO TRANS

COLD

HOT

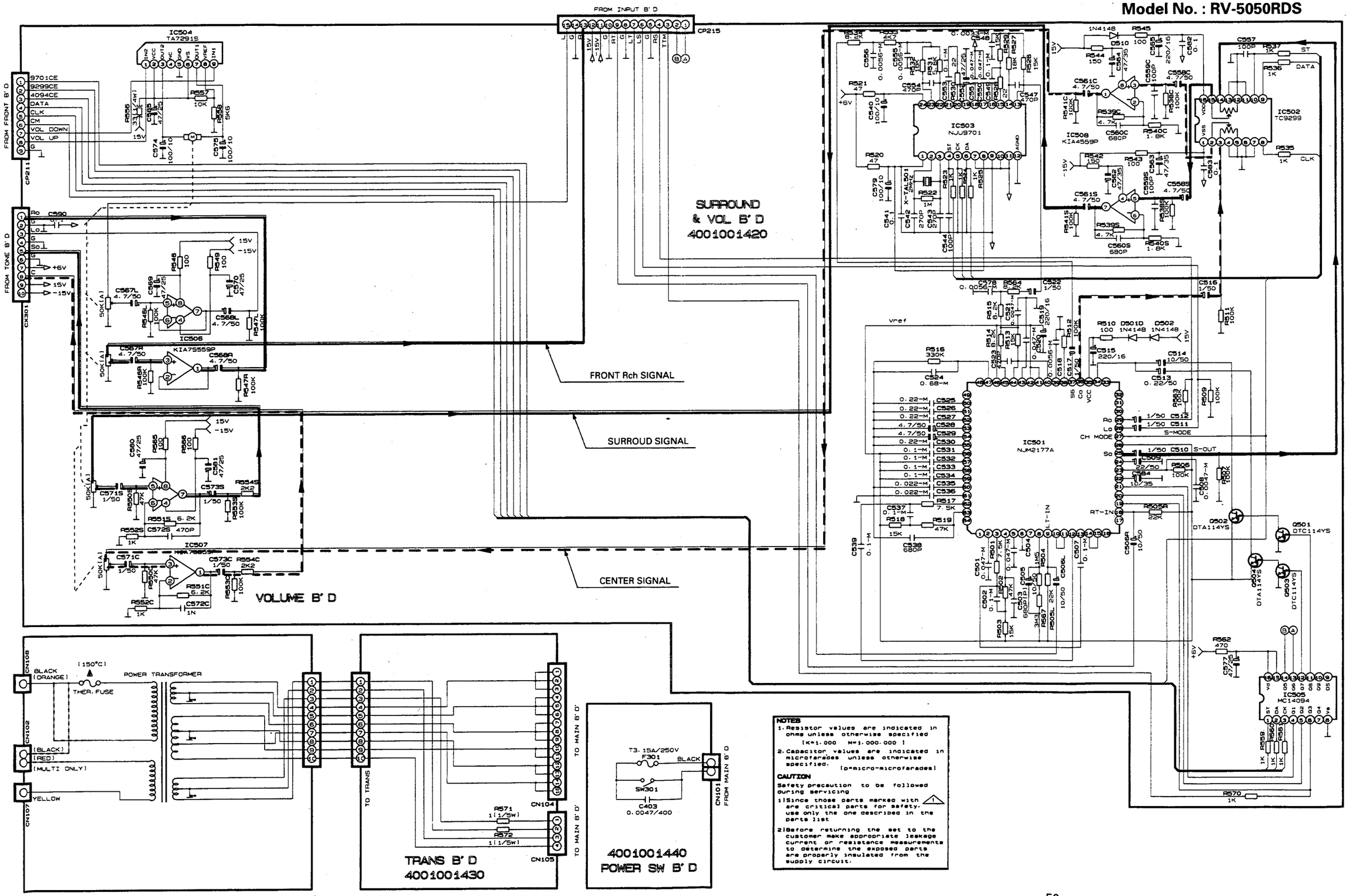
AC

ST/BY TRANS

48

SCHEMATIC DIAGRAM III

Model No. : RV-5050RDS



NOTES

1. Resistor values are indicated in ohms unless otherwise specified [K=1,000 M=1,000,000]
2. Capacitor values are indicated in microfarades unless otherwise specified. [p=micro-microfarades]

CAUTION

Safety precaution to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety. use only the one described in the parts list

2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

SCHEMATIC DIAGRAM IV